0041934

ENGINEERING DATA TRANSMITTAL

Page 1 of 1

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SEP 1995 RECEIVED EDMC

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1	WHC-SD-WM-DP-141	N/A	0	45-Day Safety Screen Results for Tank 241-T-108, Auger Samples 95-AUG-035 and 95-AUG-037	Q	2	1	

16. KEY

Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
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2	1	Cog.Eng. J.H. Baldwin J.H. Baldwin 8/24/95			
2	1	Cog. Mgr. J.G. Kristofzski J.G. Kristofzski 8/24/95			
2	1	QA W.A. Hendricksen W.A. Hendricksen 8/24/95			
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A.E. Young A.E. Young 8-21-95 Signature of EDT Originator Date	N/A Authorized Representative for Receiving Organization Date	J.G. Kristofzski 8/24/95 Cognizant Manager Date	Ctrl. No. [ ] Approved [ ] Approved w/comments [ ] Disapproved w/comments

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RELEASE AUTHORIZATION

Document Number:	WHC-SD-WM-DP-141, REV 0
Document Title:	45-Day Safety Results for Tank 241-T-108, Auger Samples 95-AUG-035 and 95-AUG-037
Release Date:	8/25/95

This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

Kara M. Broz 8/25/95

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SUPPORTING DOCUMENT

1. Total Pages 46

2. Title	3. Number	4. Rev No.
45-Day Safety Screen Results for Tank 241-T-108, Auger Samples 95-AUG-035 and 95-AUG-037	WHC-SD-WM-DP-141	0

5. Key Words

45-Day, Safety Screen Results, Safety Screen, Tank 241-T-108, Tank T-108, T-108, Auger Samples, 95-AUG-035, 95-AUG-037

6. Author

Name: John H. Baldwin

John Baldwin

Signature

Organization/Charge Code 75310/MDR21

7. Abstract

N/A

8. RELEASE STAMP

OFFICIAL RELEASE
BY WHC
DATE AUG 25 1995

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Westinghouse
Hanford Company

P.O. Box 1970 Richland, WA 99352

WHC-SD-WM-DP-141, REV. 0

ANALYTICAL SERVICES

45-DAY SAFETY SCREEN RESULTS FOR TANK 241-T-108 AUGER SAMPLES, 95-AUG-035 AND 95-AUG-037

Date Printed: AUGUST 23, 1995

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TABLE OF CONTENTS

This document consists of pages 1 through 43.

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NARRATIVE

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45-DAY SAFETY SCREEN RESULTS FOR TANK 241-T-108 AUGER SAMPLES, 95-AUG-035 AND 95-AUG-037

ANALYTICAL SUMMARY

Two auger samples from tank 241-T-108 (T-108) were received at the 222-S Laboratories and underwent safety screening analyses, consisting of differential scanning calorimetry (DSC), thermogravimetric analysis (TGA), and total alpha activity (*Tank 241-T-108 Auger Sampling and Analysis Plan* (SAP)[1]).

As required by the *Tank Safety Screening Data Quality Objective* (DQO) [2], a 90% confidence interval was calculated for the sample results. The precision requirements of the SAP were satisfied by comparing a one-sided 90% confidence interval of the mean for each sample to the action limit, rather than requiring a relative percent difference between sample and duplicate results of less than 10%. The statistical technique that was used is described in Attachment 1. The TGA analysis at the 90% confidence level found the water content of both samples to be less than the minimum limit stated in the DQO. The chemists notified the Project Coordinator as required. Upon evaluation of the data, and because the DSC results were zero, the Project Coordinator determined that additional notifications were not necessary.

When compared to the decision rules in the DQO, none of the data indicate that the tank should be considered "unsafe." The tank can be considered "safe" once it has been determined that no flammability concern exists in the tank vapor space.

SCOPE

This document serves as the 45-day report deliverable for the tank T-108 auger samples collected on July 19 and July 21, 1995 (samples 95-AUG-35 and 95-AUG-037). The 222-S Laboratories received, extruded, and analyzed each sample in accordance with the SAP. Included in this report are the primary safety screening results obtained from the analyses, and copies of all DSC and TGA raw data scans as requested in the SAP. Any additional analyses conducted by the 222-S Laboratories on the T-108 auger samples will be included in a revision to this report.

SAMPLE RECEIPT, EXTRUSION, AND SUBSAMPLING

Two auger samples were taken from T-108. The two samples are identified as 95-AUG-35 and 95-AUG-37. The samples were received at the 222-S Laboratory on July 21 and extruded on July 24. As a result of the small sample recovery, the samples were not divided into half-segment subsamples but were homogenized as single samples. Subsamples for laboratory analyses and archiving were created per the tank SAP. Table 1 provides the sampling and extrusion report for the two auger samples.

TABLE 1: SUMMARY DESCRIPTION OF AUGER SAMPLES

Core Number	Riser	Sample Total Weight (Grams)	Sample Collection General Description
95-AUG-35	5	43.2	A small amount of sample was collected from flutes 14-19. As the auger sleeve was removed, most of the sample fell into the sample tray. The sample appeared to be a mixture of medium brown and clear crystals.
95-AUG-37	2	30.5	A small amount of sample was collected from flutes 5 to 19. As the auger sleeve was removed, most of the sample fell into the sample tray. The sample appeared to be a crystalline material, which was a mixture of medium brown and clear crystals.

ANALYTICAL RESULTS

Differential Scanning Calorimetry (DSC)

DSC analyses were performed under a nitrogen atmosphere using procedure LA-514-113, Rev. B-1 or procedure LA-514-114, Rev. B-0. The results are shown in Tables 2 and 3 and the raw data scans are attached. The samples were analyzed in duplicate. Any exotherms on the scans would be visible as a rise (Mettler) or a sink (Perkin Elmer) from the baseline established at the beginning and ending of the scan. Neither of the samples exhibited any exotherms, therefore, the upper 90% confidence level values calculated for each sample (presented in Table 4) are all zero as well. Both standards run with these samples exhibited recoveries within the 90-110 percent range specified in the SAP.

Thermogravimetric Analysis (TGA)

Weight percent water is calculated from weight loss by TGA. These analyses were performed under a nitrogen atmosphere using procedure LA-560-112, Rev. A-2 or LA-514-114, Rev B-0. The samples and their related "immediate" samples from the un-homogenized extrusions were analyzed in duplicate. "Immediate" samples are samples for TGA analysis that were immediately taken directly from the un-homoginized sample as it was extruded onto the extrusion tray. TGA as well as DSC analyses were performed on homoginized samples for each auger sample. The results are presented in Tables 2 and 3, and the raw data scans are attached.

The results for 95-AUG-035 were well below the minimum action limit of 17 weight percent water, ranging from 0.54 to 4.32 percent water by weight. A re-run was performed for both the sample and the "immediate" sample. Per the revised safety screening DQO, the sample results were compared to the action

limit at a 90% confidence level. These comparisons are presented in Table 5. A summary of the statistical technique is presented in Attachment 1. The lower 90% confidence level for this sample (0.174) is well below the minimum action limit of 17%. The percent recovery for each standard analyzed was within the 90-110% range specified in the SAP.

The results for 95-AUG-037 were well above the minimum action limit of 17 weight percent water, ranging from 35.93 to 38.68 percent water by weight. The associated "immediate" sample however ranged in value from 1.68 to 39.36 percent water by weight. A re-run was performed for the "immediate" sample. Per the revised safety screening DQO [2], the sample results were compared to the action limit at a 90% confidence level. These comparisons are presented in Table 5. A summary of the statistical technique is presented in Attachment 1. The lower 90% confidence level for this sample (11.757) is below the minimum action limit of 17%. The percent recovery for each standard analyzed was within the 90-110% range specified in the SAP.

Alpha Total

Analyses for total alpha activity were performed on two samples. Samples were prepared by fusion using procedure LA-549-141, Rev. D-0, and analyses were performed using procedure LA-508-101, Rev. D-2. Two fusions were prepared per sample (for duplicate results). Sample and duplicate results ranged from 0.0389 to 0.115 μCi/g. Since all of the results were well below the safety screening limit of 41 μCi/g, reruns to increase reproducibility were deemed unnecessary. The upper 90% confidence level for each sample has been calculated and is presented in Table 6. All of the adjusted results are far below the action limit. The total alpha results are presented in Tables 2 and 3.

Two control standards were run, with recoveries of 104.3 and 111.1 percent, slightly exceeding the SAP target of 90 to 110%. Since the results for these samples were very low and the standard recovery was within the method control limits (70.5% to 128.9%), reruns to improve standard recovery were deemed unnecessary. Spikes were performed on the two samples, with spike recoveries of 82.10 and 62.70%. A rerun of the spiked samples produced identical recoveries. Since the sample results were far below the action limit, the poor spike recovery did not necessitate further testing. These quality control results are presented in Tables 2 and 3.

Responsible Project Coordinator: J. H. Baldwin

REFERENCE

[1] J. H. Baldwin, "*Tank 241-T-108 Auger Sampling and Analysis Plan*, WHC-SD-WM-TSAP-013, Rev. 0, Westinghouse Hanford Company, Richland, Washington, July 12, 1995.

[2] H. Babad, J. W. Hunt, and K. S. Redus, *Tank Safety Screening Data Quality Objective*, WHC-SD-WM-SP-004, Rev. 1, Westinghouse Hanford Company, Richland, Washington, April 27, 1995.

INTERIM

T-108 SAFETY SCREEN RESULTS
T-108

CORE NUMBER: 95-AUG-035
SEGMENT #: 95-AUG-035

Table 2

SEGMENT PORTION: Immediate Sampling (to check moisture loss)

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001332	1		% Water by TGA using Mettler	%	17.00	999.0	101.4	n/a	8.30e-01	2.430	1.630	98.2	n/a	n/a	n/a
S95T001332			% Water by TGA using Mettler	%	17.00	999.0	101.0	n/a	2.480	5.60e-01	1.520	126	n/a	n/a	n/a

W Whole Segment: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001320			% Water by TGA on Perkin Elmer	%	17.00	999.0	95.78	n/a	5.40e-01	1.120	8.30e-01	69.9	n/a	n/a	n/a
S95T001320			% Water by TGA using Mettler	%	17.00	999.0	101.3	n/a	4.320	7.70e-01	2.545	139	n/a	n/a	n/a
S95T001320			DSC Exotherm Dry Calculated	Joules/g Dry	None	None	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T001320			DSC Exotherm using Mettler	Joules/g	-9.9e+01	480.0	100.5	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T001321	F		Alpha of Digested Solid	uCi/g	-9.9e+01	61.00	111.1	<6.48e-04	5.20e-02	3.89e-02	4.54e-02	28.8	62.70	1.22e-03	7.1

=> Limit violated
=> Selected Limit

INTERIM

T-108 SAFETY SCREEN RESULTS
T-108

CORE NUMBER: 95-AUG-037
SEGMENT #: 95-AUG-037

Table 3

SEGMENT PORTION: Immediate Sampling (to check moisture loss)

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001333	1		% Water by TGA using Mettler	%	17.00	999.0	101.4	n/a	39.36	24.44	31.90	46.8	n/a	n/a	n/a
S95T001333			% Water by TGA using Mettler	%	17.00	999.0	101.3	n/a	19.66	1.680	10.67	169	n/a	n/a	n/a

W Whole Segment: W Whole Segment

Sample#	R	A#	Analyte	Unit	Action Limits Lower	Action Limits Upper	Standard %	Blank	Result	Duplicate	Average	RPD %	Spk Rec %	Det Limit	Count Err%
S95T001323			% Water by TGA using Mettler	%	17.00	999.0	101.4	n/a	35.93	38.68	37.30	7.37	n/a	n/a	n/a
S95T001323			DSC Exotherm on Perkin Elmer	Joules/g	-9.9e+01	480.0	95.33	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T001323			DSC Exotherm Dry Calculated	Joules/g Dry	None	None	n/a	n/a	0.00e+00	0.00e+00	0.00e+00	0.00	n/a	n/a	n/a
S95T001324	F		Alpha of Digested Solid	uCi/g	-9.9e+01	41.00	104.3	<5.85e-04	1.15e-01	7.47e-02	9.49e-02	42.5	82.10	6.66e-03	11.5

=> Limit violated
=> Selected Limit

6

Table 4. 90% Upper Confidence Interval Limits for DSC (Units are in joules/g).

Sample Number and Description	$\hat{\mu}$	$\hat{\sigma}^2_{\hat{\mu}}$	UL
S95T001320 95-Auger-035	0	0	0
S95T001323 95-Auger-037	0	0	0

Table 5. 90% Lower Confidence Interval Limits for (TGA) Percent Water (Units are in %).

Sample Numbers and Description	$\hat{\mu}$	$\hat{\sigma}^2_{\hat{\mu}}$	LL
S95T001332, S95T001320 95-Auger-035	1.631	0.224	0.174
S95T001333, S95T001323 95-Auger-037	26.625	62.147	11.757

Table 6. 90% Upper Confidence Interval Limits for Total Alpha (Units are in μCi/g).

Sample Number and Description	$\hat{\mu}$	$\hat{\sigma}^2_{\hat{\mu}}$	UL
S95T001321 95-Auger-035	0.05	0.000043	0.07
S95T001324 95-Auger-037	0.09	0.000406	0.16

ATTACHMENT 1

The 90% Confidence Interval lower limit (LL) on the mean for percent water (TGA) data is

$$\hat{\mu} - t_{(a-1)} * \sqrt{\hat{\sigma}^2_{\hat{\mu}}}$$

where $\hat{\mu}$ is the ordinary sample mean, $\hat{\sigma}^2_{\hat{\mu}}$ is the variance of the sample mean and $t_{(a-1)}$ is a quantile from Student's t distribution with a-1 degrees of freedom. In this equations, *a* is number of sampling groups (immediate and regular sampling), and $t_{(1)}$ is equal to 3.078 for a one-sided 90% confidence interval.

The 90% Confidence Interval upper limit (UL) on the mean for DSC and total alpha data is

$$\hat{\mu} + t_{(a-1)} * \sqrt{\hat{\sigma}^2_{\hat{\mu}}}$$

where $\hat{\mu}$ is the ordinary sample mean and $\hat{\sigma}^2_{\hat{\mu}}$ is the variance of the sample mean and $t_{(a-1)}$ is *a* quantile from Student's t distribution with a-1 degrees of freedom. In this equations, a is the number of samples in each segment, and $t_{(1)}$ is equal to 3.078 for a one-sided 90% confidence interval.

Note: For DSC and Total Alpha, $\hat{\sigma}^2_{\hat{\mu}} = \hat{\sigma}^2/n$, where $\hat{\sigma}^2$ is the sample variance.

Table 4 gives the upper limit (UL) to the 90% confidence interval for DSC for each segment in T-108. If the upper limit is less than 481 joules/g, then we reject the null hypothesis that the mean DSC is greater than or equal to 481 joules/g.

Table 5 gives the lower limits (LL) to the 90% confidence interval on the percent water (TGA) for each segment in T-108. If the lower limit is greater than 17%, then we reject the null hypothesis that the mean percent water is less than or equal to 17 percent.

Table 6 gives the upper limit (UL) to the 90% confidence interval on the Total Alpha for each segment in T-108. If the upper limit is less than 41 μCi/g, then we reject the null hypothesis that the mean Total Alpha is greater than or equal to 41 μCi/g.

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INORGANIC ANALYSES

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LABCORE Data Entry Template for Worklist# 1921

Analyst: SMF **Instrument:** DSC0 1 **Book #** 12N14A

Method: LA-514-113 Rev/Mod B-1 / B-0 LA-514-114

Worklist Comment: Please run T-108 DSCs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				DSC-01	SOLID	28.45	28.6	N/A	Joules/g
95000097	T-108	2 SAMPLE	S95T001320	0		DSC-01	SOLID	N/A	Ø		Joules/g
95000097	T-108	3 DUP	S95T001320	0		DSC-01	SOLID	Ø	Ø	N/A	Joules/g
		4 STD				DSC-03	SOLID	28.45	~~26.02~~ 27.12	~~8-15~~ 8-15-95 N/A BDV	Joules/g
95000099	T-108	5 SAMPLE	S95T001323	0		DSC-03	SOLID	N/A	Ø		Joules/g
95000099	T-108	6 DUP	S95T001323	0		DSC-03	SOLID	Ø	Ø	N/A	Joules/g

Final page for worklist # 1921

See attached for signatures
Analyst Signature **Date** 8-11-95

Analyst Signature **Date** 8-15-95

Verified by Blandina Valenzuela
8-15-95

S95T001320 produced three endotherms one at ~~94.1 J/g~~ 8-11-95 BDV 68.8°C with a delta H of 94.1 J/g; second at 276.3°C with a delta H of 35.2 J/g; and third at 305.3°C with a delta H of 109.5 J/g.

Data Entry Comments: S95T001323 produced three endothermic regions one at 114.8°C. with a delta H of 1103.07 J/g; second at 254.1°C with a delta H of 5.82 J/g and third at 296.0°C. with a delta H of 37.3 J/g.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 1921

Analyst: SMF **Instrument:** DSC0 **Book #** 12N1417

Method: LA-514-113 Rev/Mod B-1

Worklist Comment: Please run T-108 DSCs under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				DSC-01	SOLID			N/A	Joules/g
95000097	T-108	2	SAMPLE	S95T001320	0		DSC-01	SOLID	N/A			Joules/g
95000097	T-108	3	DUP	S95T001320	0		DSC-01	SOLID			N/A	Joules/g
95000099	T-108	4	SAMPLE	S95T001323	0		DSC-01	SOLID	N/A			Joules/g
95000099	T-108	5	DUP	S95T001323	0		DSC-01	SOLID			N/A	Joules/g

Final page for worklist # 1921

Susie M. Fulton
Analyst Signature **Date**

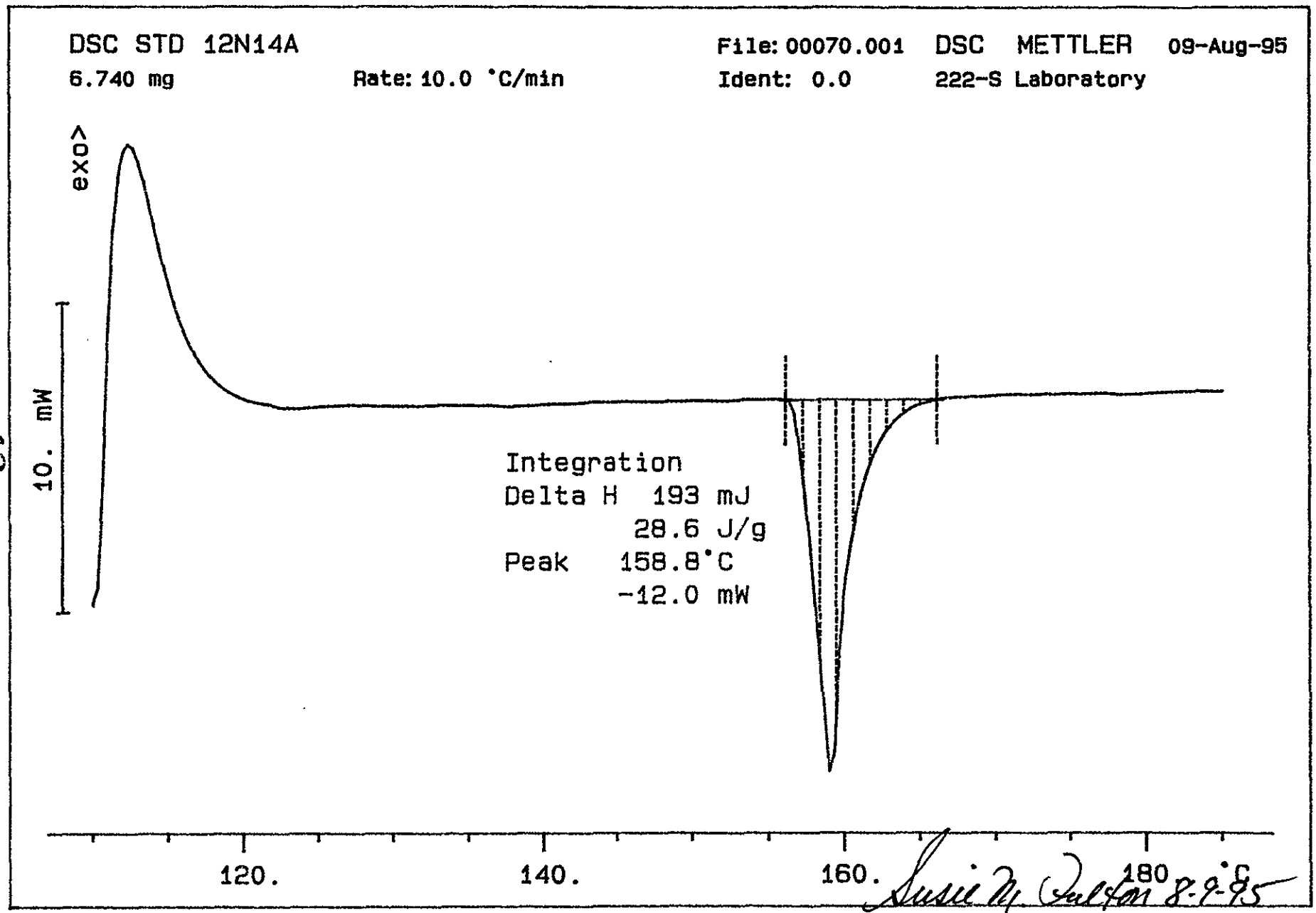
Analyst Signature **Date**

Other instrument was used.
8-11-95
BDV

Data Entry Comments:
S95T001320 is light tan crumbly sample w/ large clear crystals many which are larger than

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

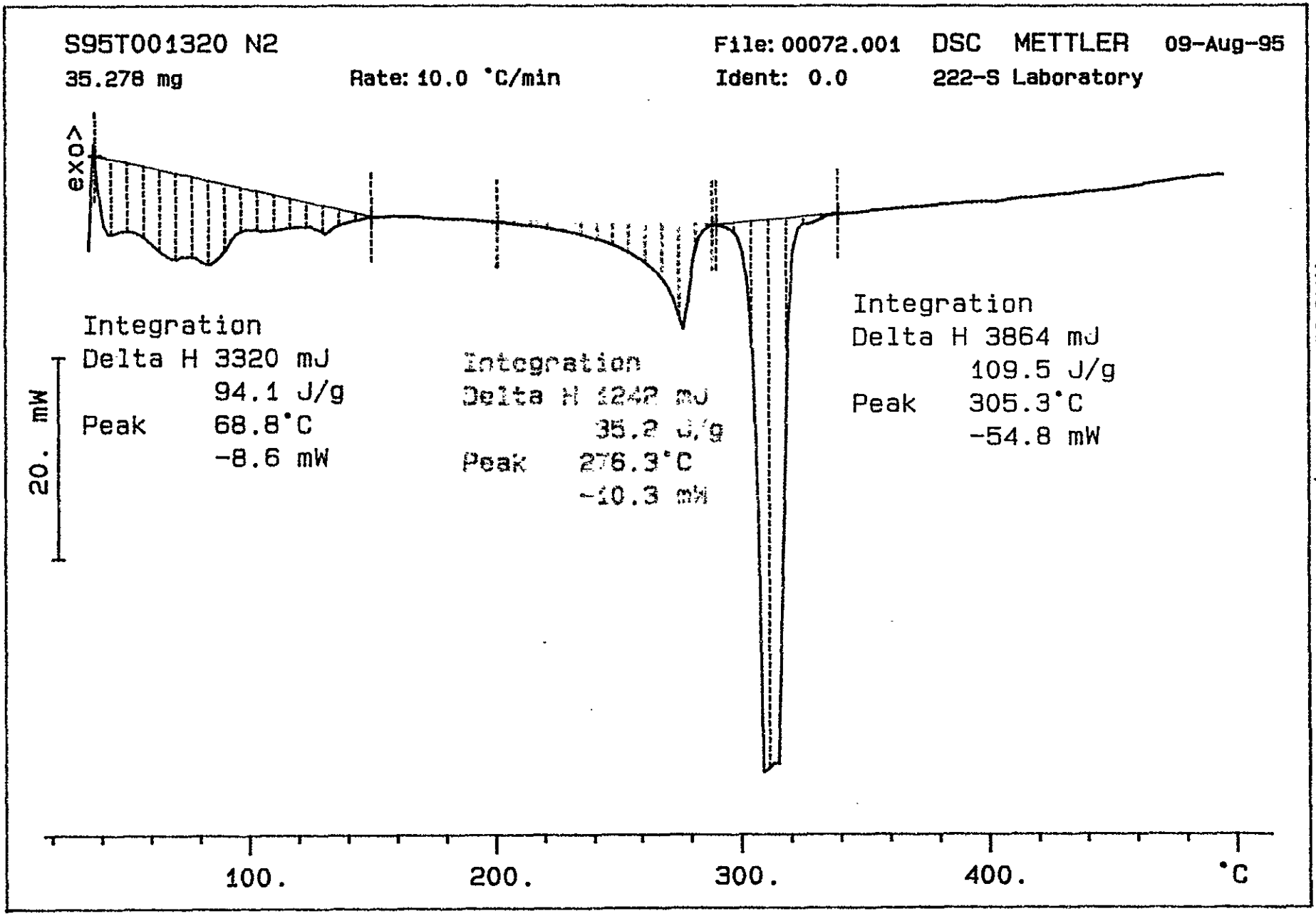
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 12 TO 17.



Susie M. Sulton 8-9-95

27

9513381 WHC-SD-WM-DP-141, REV.0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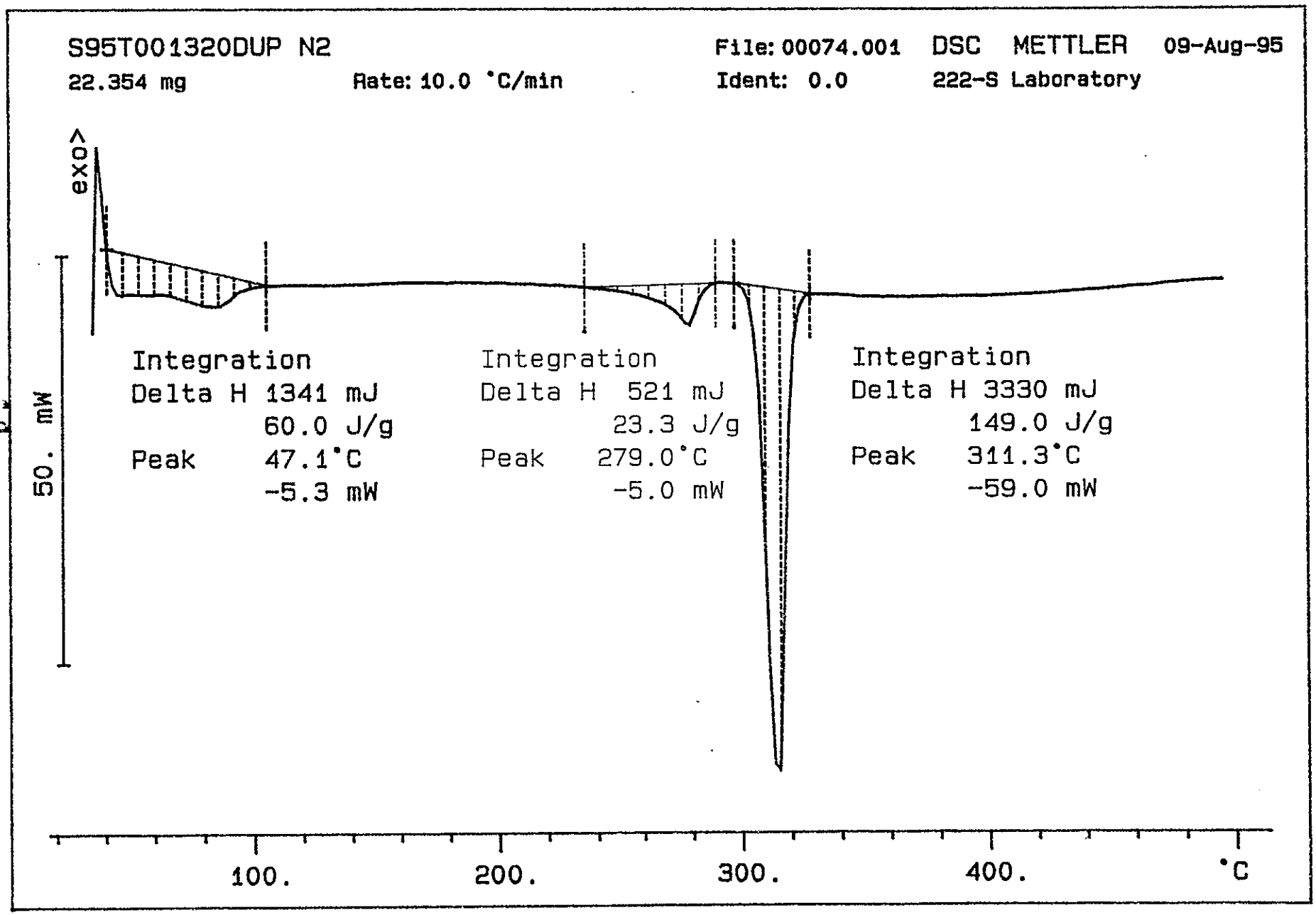
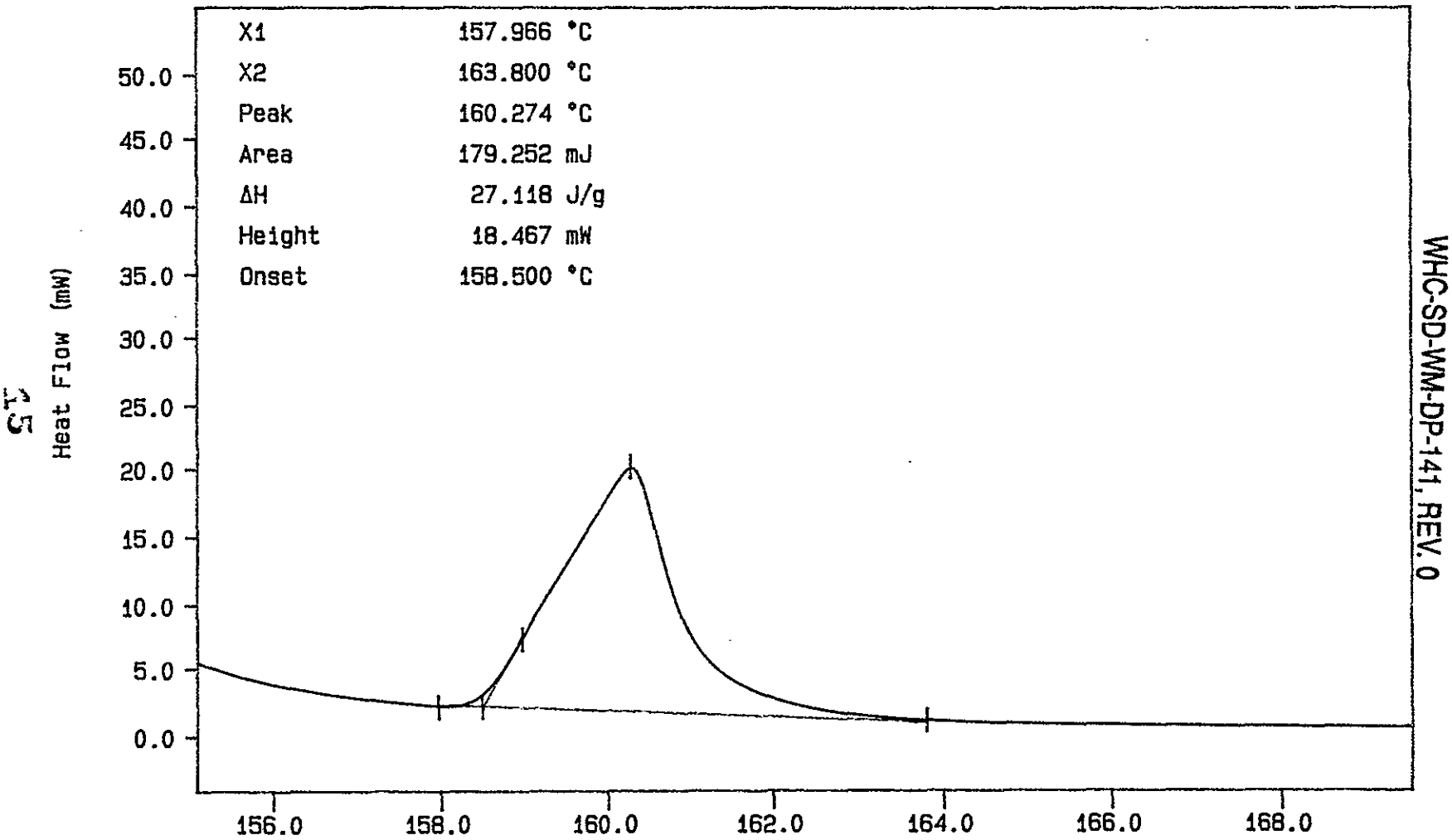
35.278 mg
Rate: 10.0 °C/min
File: 00072.001
Ident: 0.0
DSC METTLER
222-S Laboratory
09-Aug-95
exo>
Integration
Delta H 3320 mJ
94.1 J/g
Peak 68.8°C
-8.6 mW
Integration
Delta H 1242 mJ
35.2 J/g
Peak 276.3°C
-10.3 mW
Integration
Delta H 3864 mJ
109.5 J/g
Peak 305.3°C
-54.8 mW
20. mW
100.
200.
300.
400.
°C



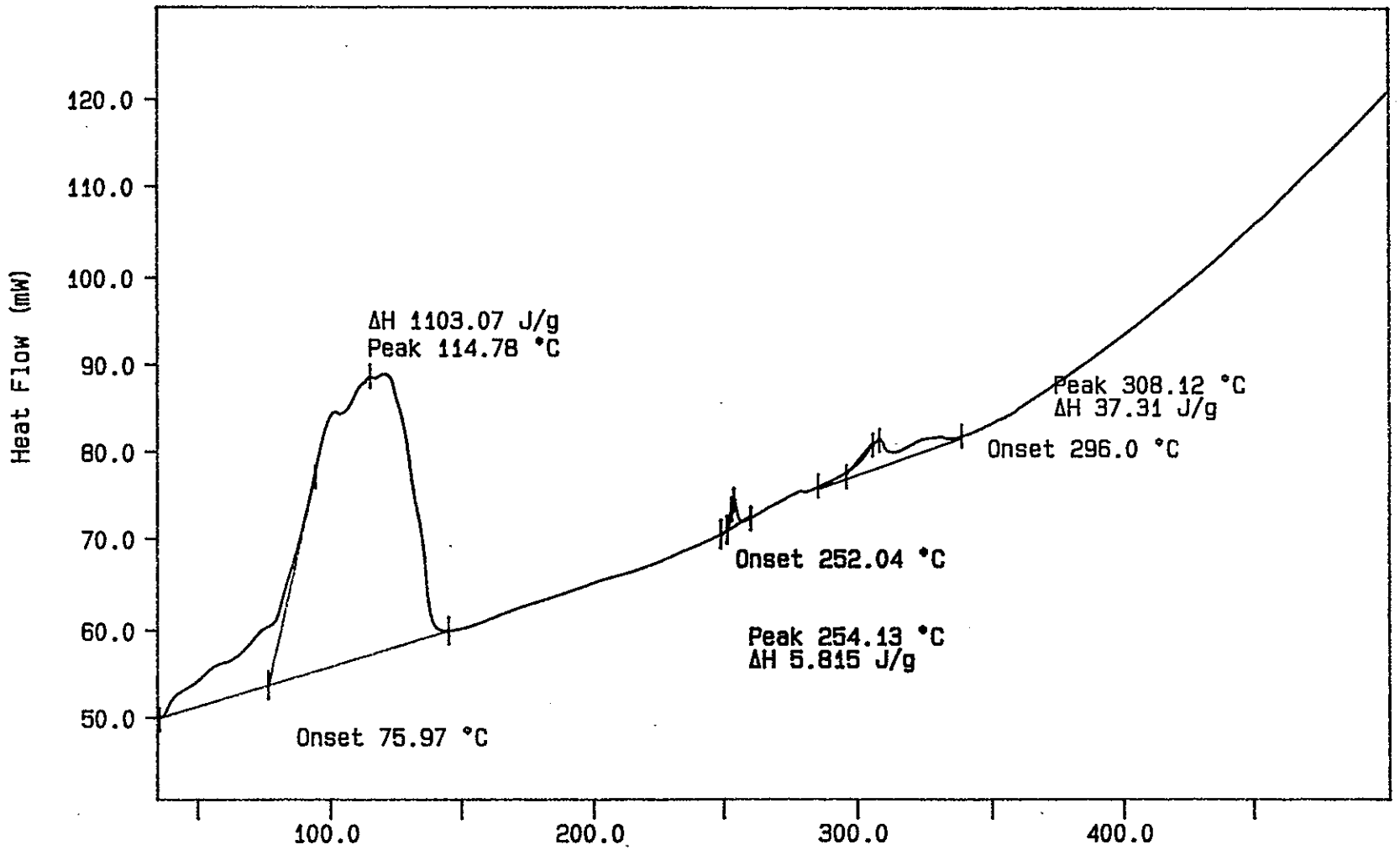
Curve 1: DSC
File info: IND081001 Thu Aug 10 09:59:53 1995
Sample Weight: 6.610 mg
12N14A Indium at 10C/min



N2, EXOTHERM DOWN
TEMP1: 150.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 170.0 C

AD PURINTON
PERKIN ELMER
222-S Lab
Tue Aug 15 07:47:55 1995

Curve 1: DSC
File info: SAM081001 Thu Aug 10 14:07:00 1995
Sample Weight: 8.260 mg
S95T001323

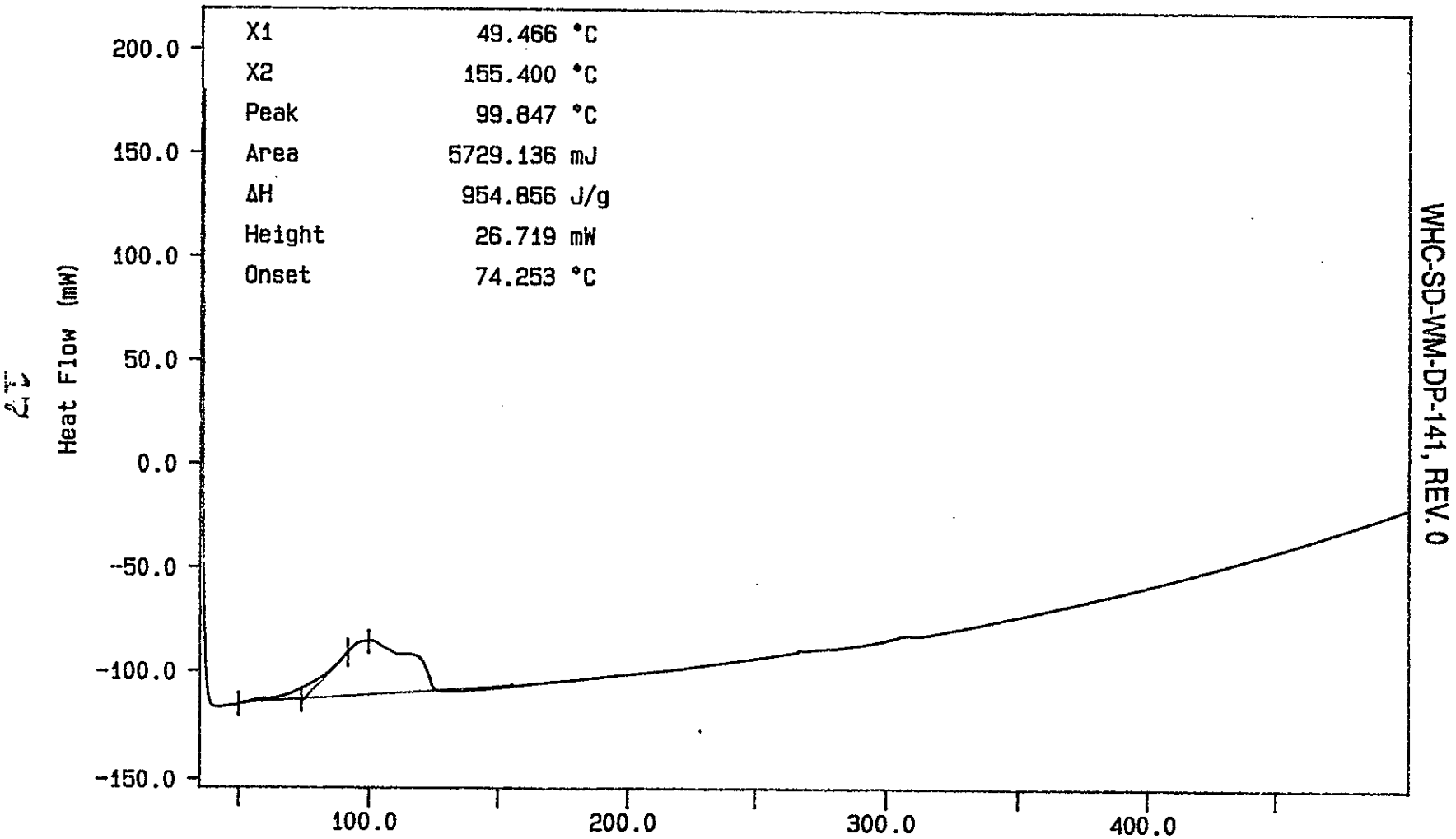


exotherm down, N2 purge gas

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

AD PURINTON
PERKIN ELMER
222-S Lab
Thu Aug 10 14:43:00 1995

Curve 1: DSC
File info: SAM081002 Thu Aug 10 15:13:05 1995
Sample Weight: 6.000 mg
S95T001323 DUP
8-11-95 BJV



exotherm down, N2 purge gas

TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

AD PURINTON
PERKIN ELMER
222-S Lab
Thu Aug 10 16:06:12 1995

LABCORE Data Entry Template for Worklist# 1923

Analyst: SMF **Instrument:** TGA0 1 **Book #** 65 N8-A

Method: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run T-108 TGAs under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.74	60.53	N/A	%
95000097	T-108	2	SAMPLE	S95T001320	0		TGA-01	SOLID	N/A	4.32		%
95000097	T-108	3	DUP	S95T001320	0		TGA-01	SOLID	4.32	.77	N/A	%
		4	STD				TGA-01	SOLID	59.74	60.56	N/A	%
95000099	T-108	5	SAMPLE	S95T001323	0		TGA-01	SOLID	N/A	35.93		%
95000099	T-108	6	DUP	S95T001323	0		TGA-01	SOLID	35.93	38.68	N/A	%

Final page for worklist # 1923

See attached for signature
Analyst Signature **Date** 8-15-95

Analyst Signature 8-15-95 **Date**

Verified by Blandina Valenzuela 8-15-95

Data Entry Comments: The noise found on the thermogram is due to the fact we are getting close to the limits of the instrument

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 1923

Analyst: SMF **Instrument:** TGA0 **Book #** 65N87

Method: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run T-108 TGAs under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID			N/A	%
95000099	T-108	2	SAMPLE	S95T001323	0		TGA-01	SOLID	N/A			%
95000099	T-108	3	DUP	S95T001323	0		TGA-01	SOLID			N/A	%
95000097	T-108	4	SAMPLE	S95T001320	0		TGA-01	SOLID	N/A			%
95000097	T-108	5	DUP	S95T001320	0		TGA-01	SOLID			N/A	%

Final page for worklist # 1923

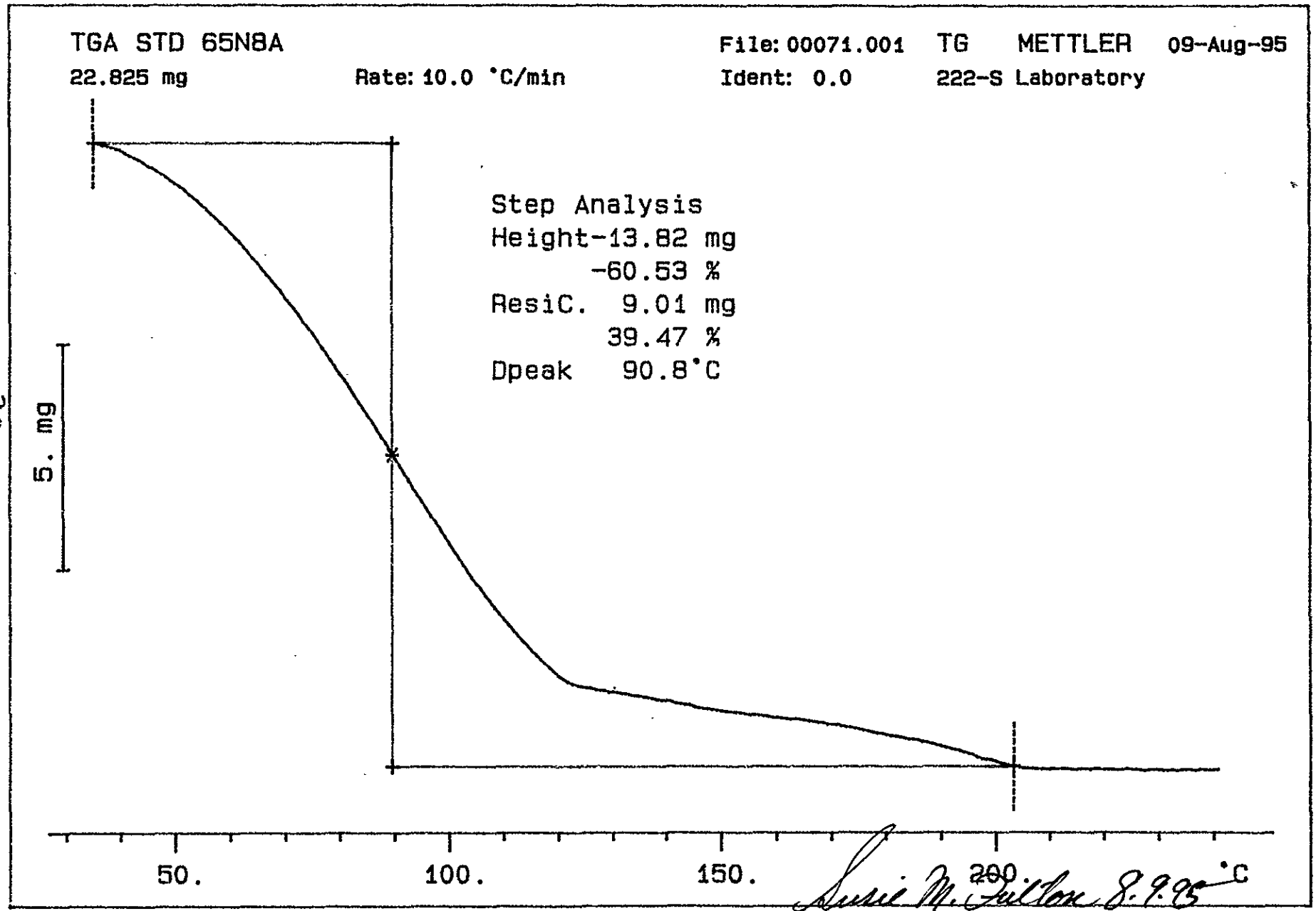
Susie M. Fulton 8-9-95
Analyst Signature **Date**

[signature] 8-14-95
Analyst Signature **Date**

Data Entry Comments:
S95T001320 is a light tan crumbly sample w large clear crystals, most of which are larger than the pan.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

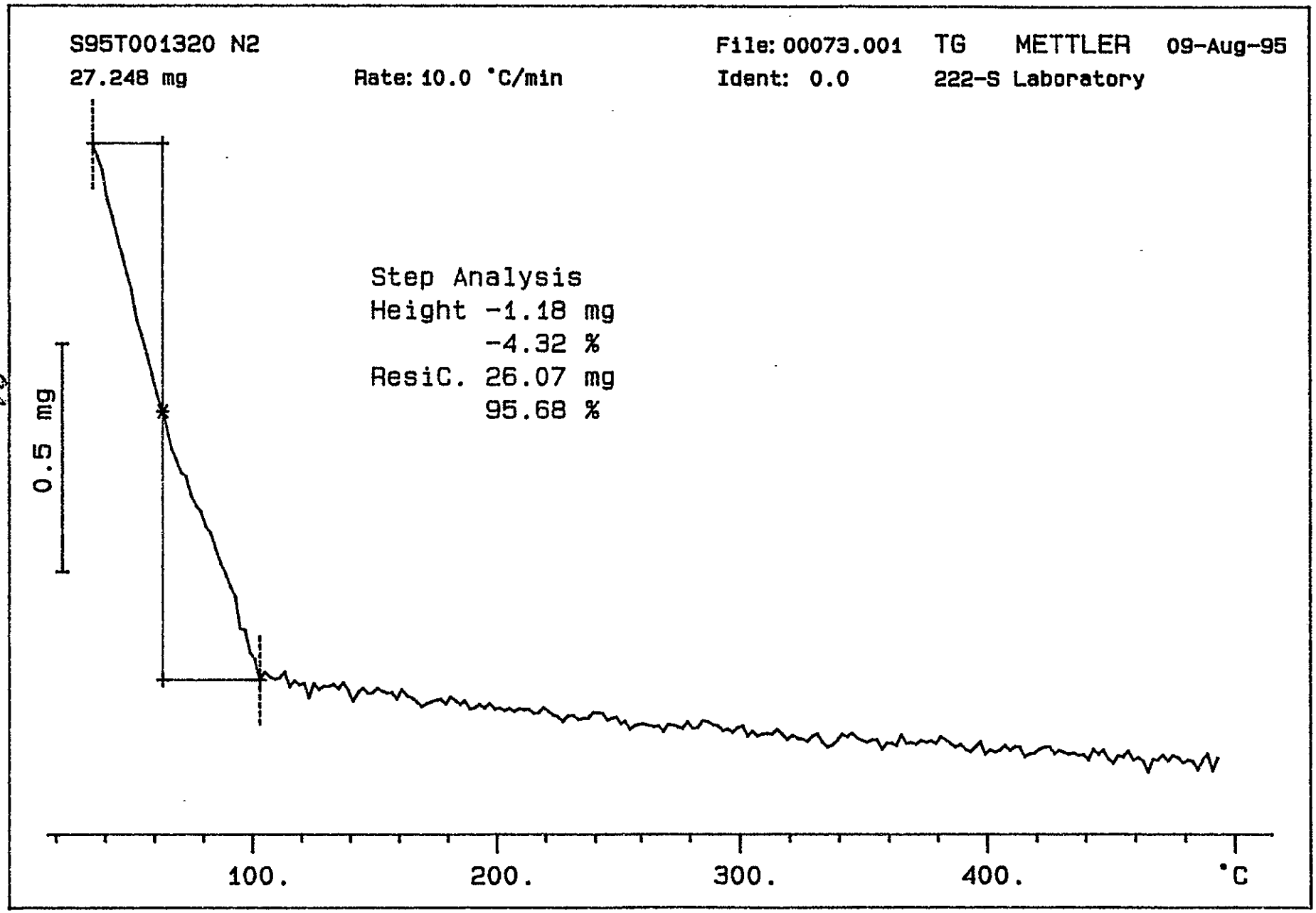
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 20 TO 25.

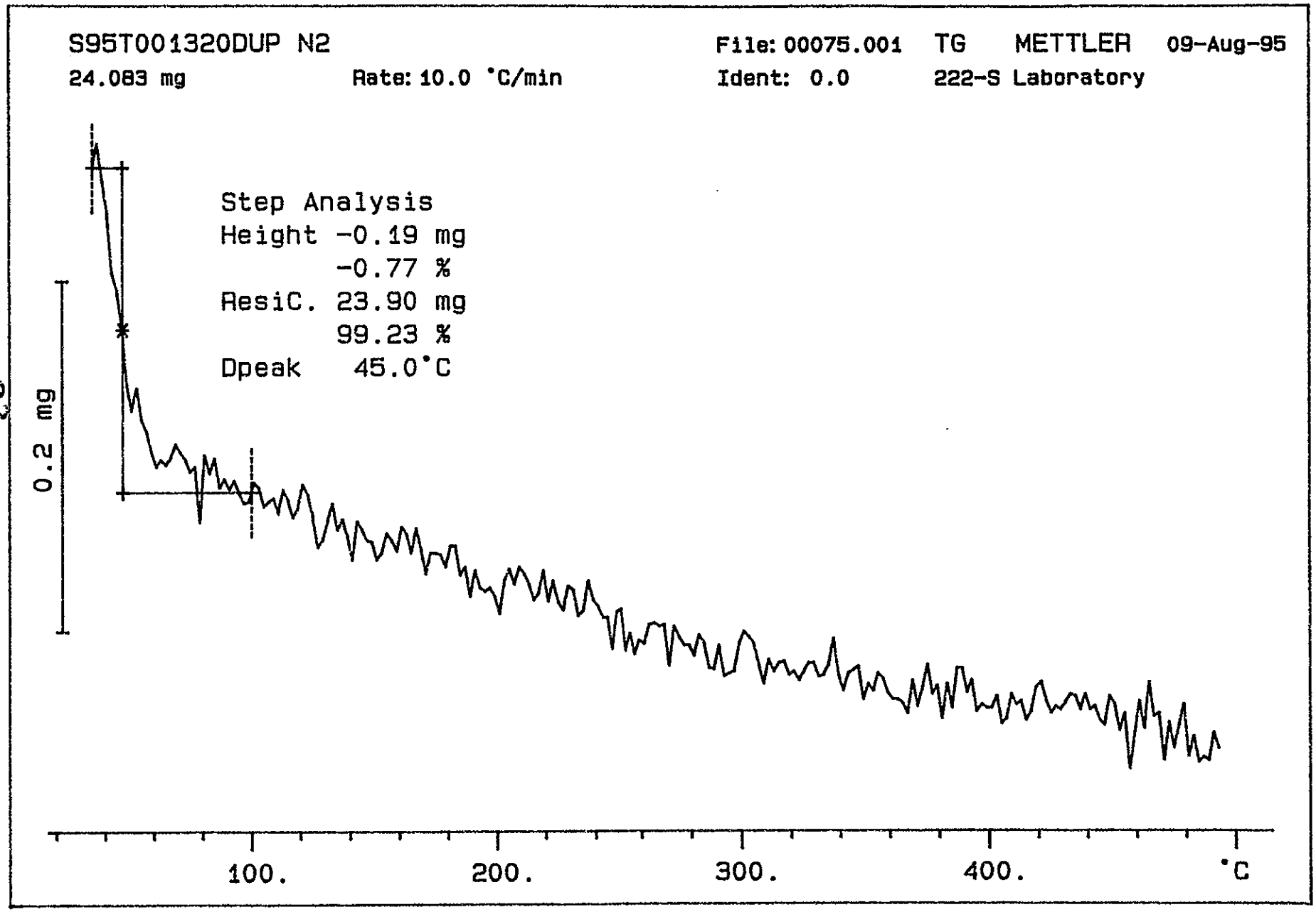


Susie M. Fulton 8.9.95

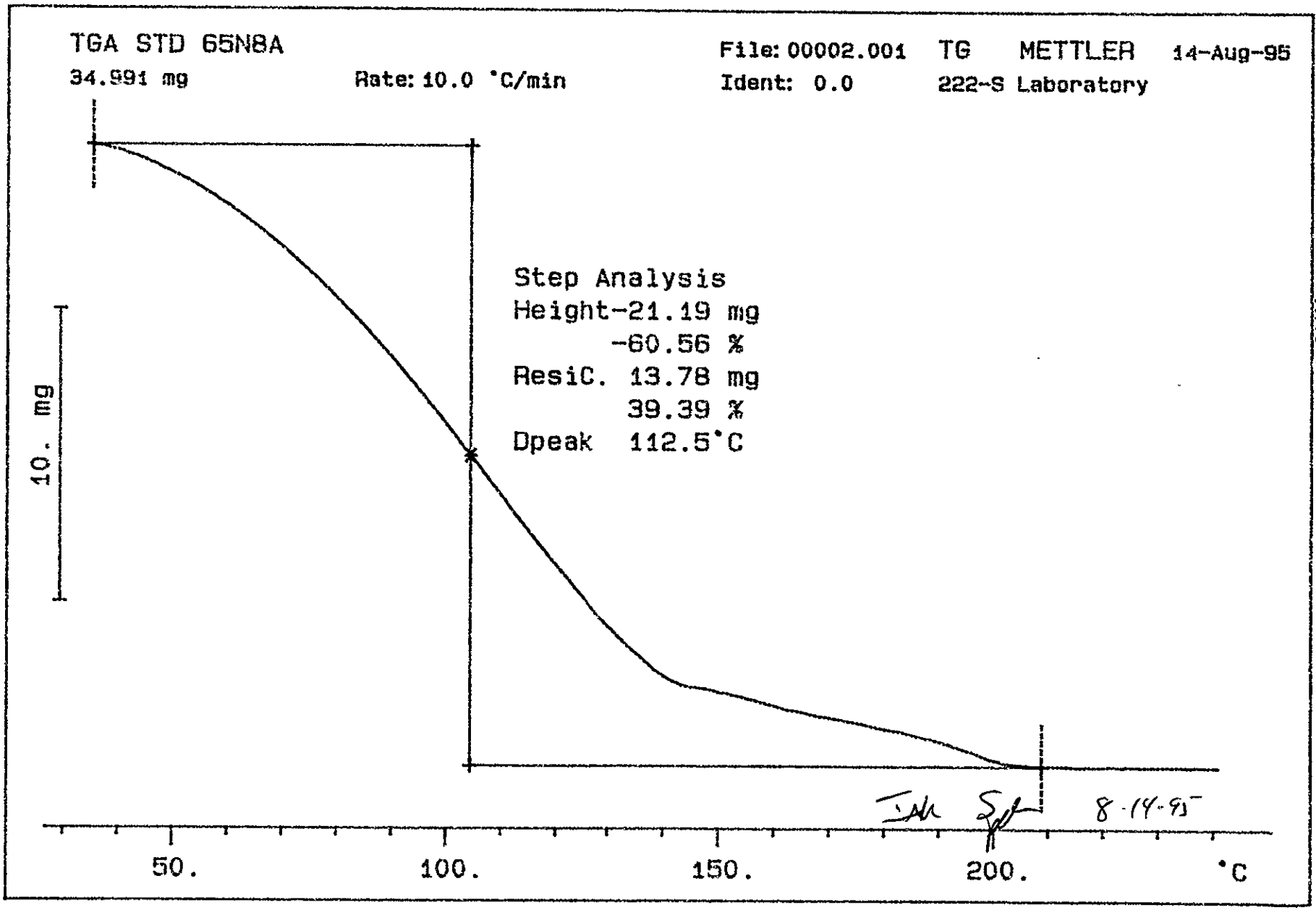
20

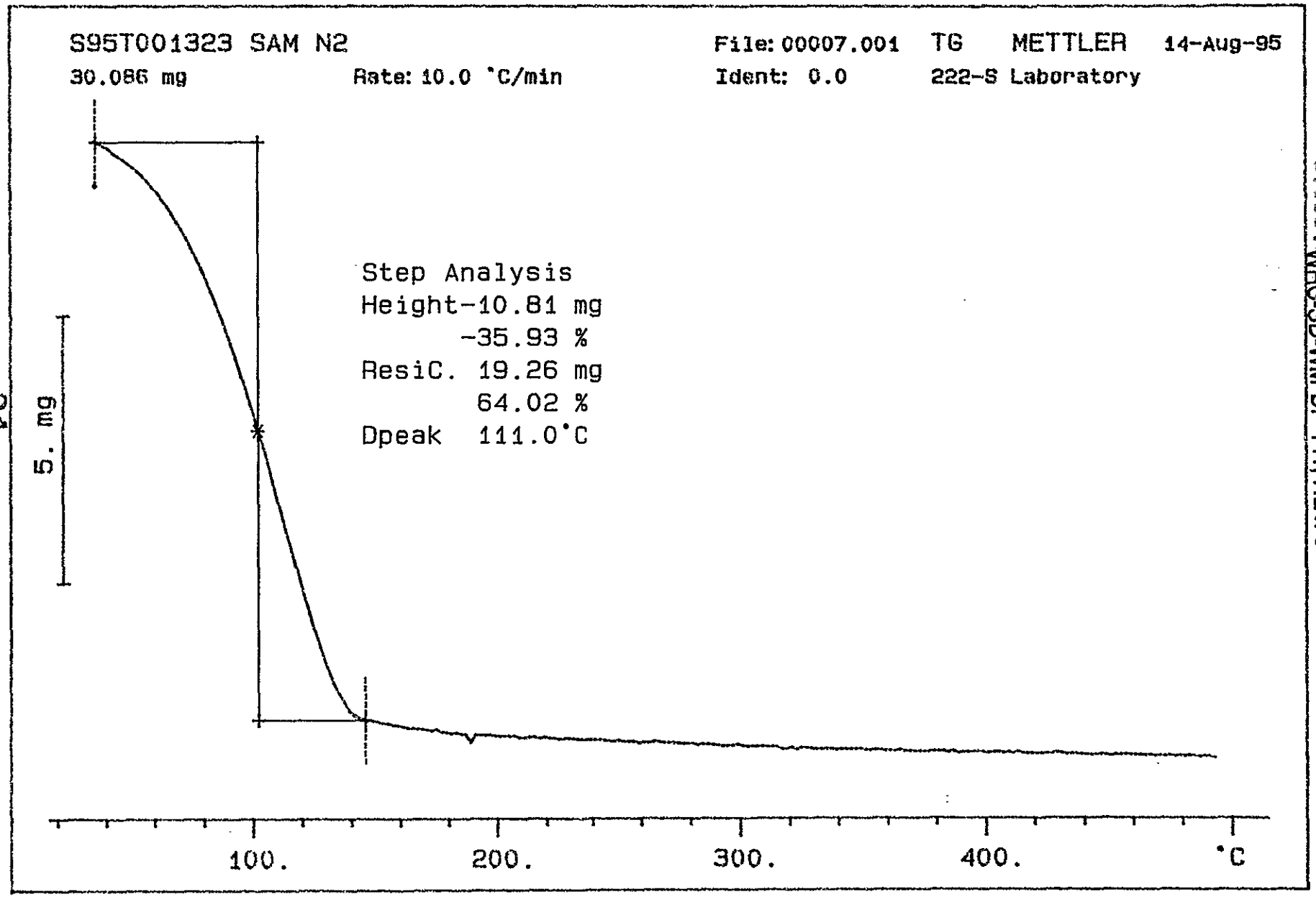
9513381.254 WHC-SD-WM-DP-141, REV. 0

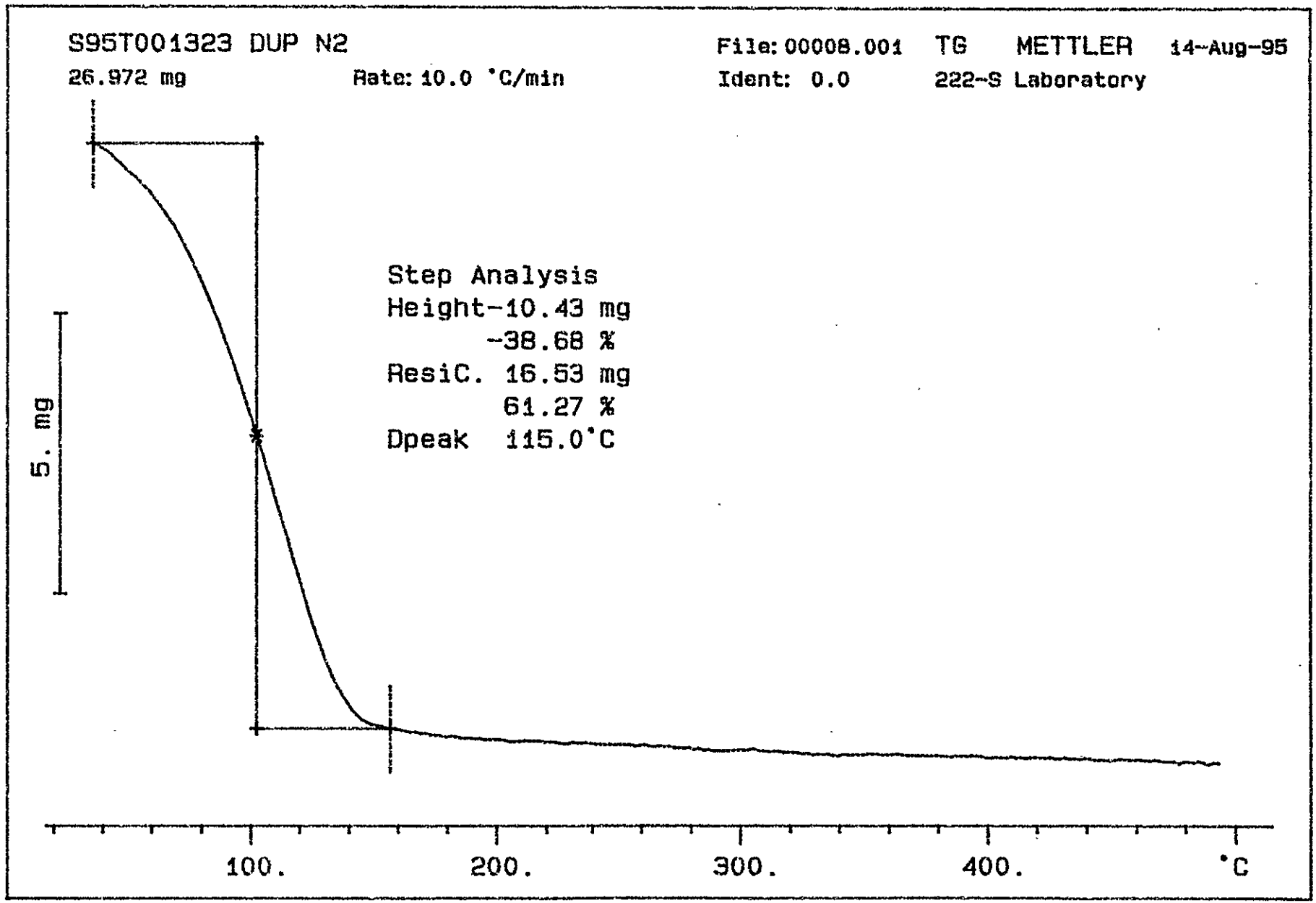

S95T001320 N2
27.248 mg
Rate: 10.0 °C/min
File: 00073.001 TG METTLER 09-Aug-95
Ident: 0.0 222-S Laboratory
Step Analysis
Height -1.18 mg
-4.32 %
ResiC. 26.07 mg
95.68 %
6w 5.0 mg
100.
200.
300.
400.
°C



22


TGA STD 65N8A
34.991 mg
Rate: 10.0 °C/min
File: 00002.001 TG METTLER 14-Aug-95
Ident: 0.0 222-S Laboratory
Step Analysis
Height-21.19 mg
-60.56 %
ResiC. 13.78 mg
39.39 %
Dpeak 112.5°C
10. mg
50.
100.
150.
200.
°C
8-14-95




S95T001323 DUP N2
26.972 mg
Rate: 10.0 °C/min
File: 00008.001 TG METTLER 14-Aug-95
Ident: 0.0 222-S Laboratory
Step Analysis
Height-10.43 mg
-38.68 %
ResiC. 16.53 mg
61.27 %
Dpeak 115.0°C
5. mg
100.
200.
300.
400.
°C

LABCORE Data Entry Template for Worklist# 1940

Analyst: JDS **Instrument:** TGA0 1 **Book #** 65N8-A

Method: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run T-108 TGAs under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-01	SOLID	59.74	60.31	N/A	%
95000097	T-108	2	SAMPLE	S95T001332	0		TGA-01	SOLID	N/A	2.48		%
95000097	T-108	3	DUP	S95T001332	0		TGA-01	SOLID	2.48	.56	N/A	%
		4	STD				TGA-01	SOLID	59.74	60.54	N/A	%
95000099	T-108	5	SAMPLE	S95T001333	0		TGA-01	SOLID	N/A	19.66		%
95000099	T-108	6	DUP	S95T001333	0		TGA-01	SOLID	19.66	1.68	N/A	%

Final page for worklist # 1940

See attached for signatures
Analyst Signature Date 8-14-95
Verified by Blandina Valenzuela 8-15-95

Analyst Signature Date 8-15-95

Data Entry Comments: The noise on the TGA thermogram indicates we are getting close to the limits of the machine. Sample S95T001333 produced a second weight loss step of 3.24% at approximately 280°C

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 1940

Analyst: ds **Instrument:** TGA0 **Book #** 65N8A

Method: LA-560-112 Rev/Mod

Worklist Comment: Please run T-108 TGAs under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID			N/A	%
95000097	T-108	2 SAMPLE	S95T001332	0		TGA-01	SOLID	N/A			%
95000097	T-108	3 DUP	S95T001332	0		TGA-01	SOLID			N/A	%
95000099	T-108	4 SAMPLE	S95T001333	0		TGA-01	SOLID	N/A			%
95000099	T-108	5 DUP	S95T001333	0		TGA-01	SOLID			N/A	%

Final page for worklist # 1940

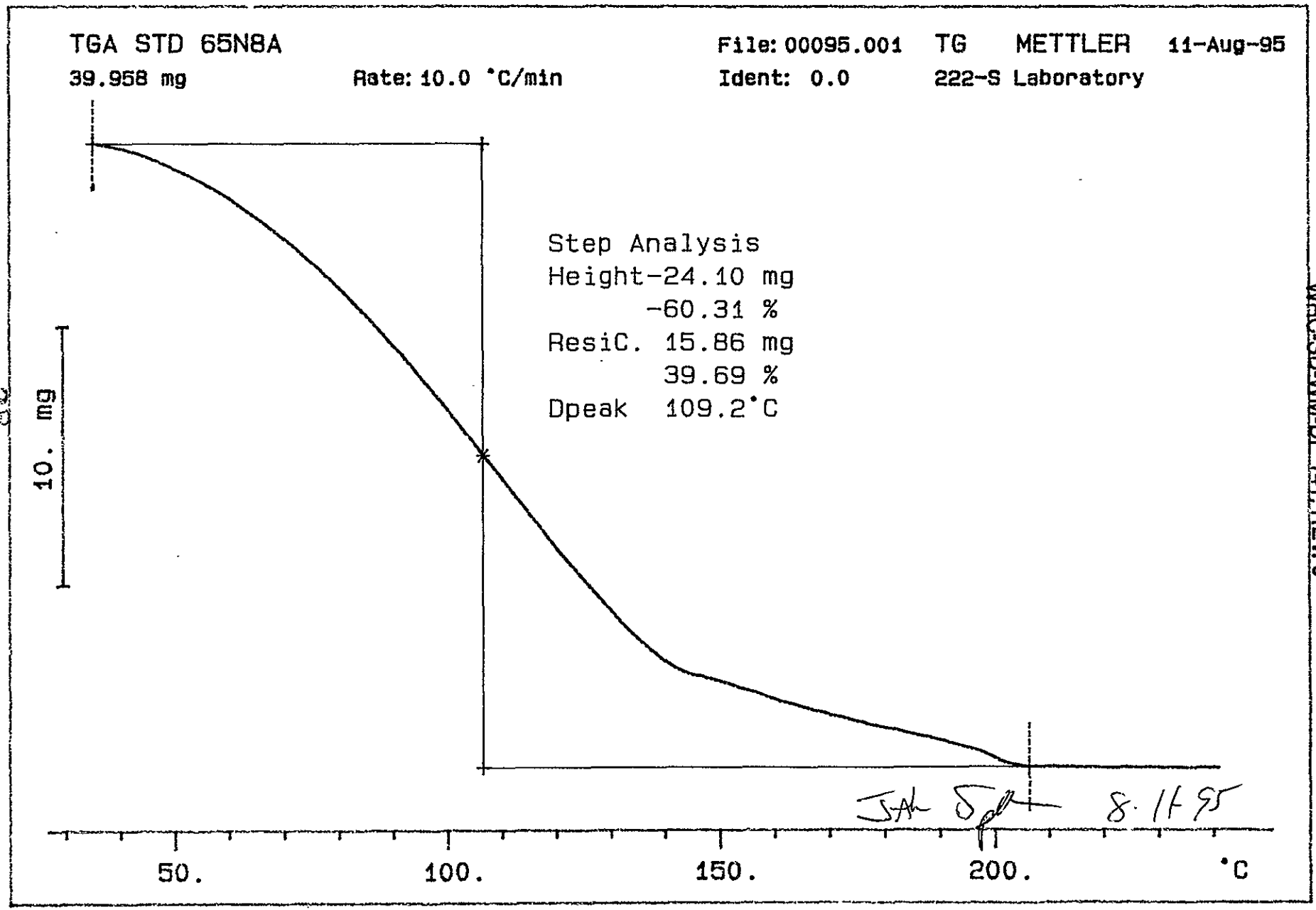
JAS 8-14-95
Analyst Signature **Date**

Analyst Signature **Date**

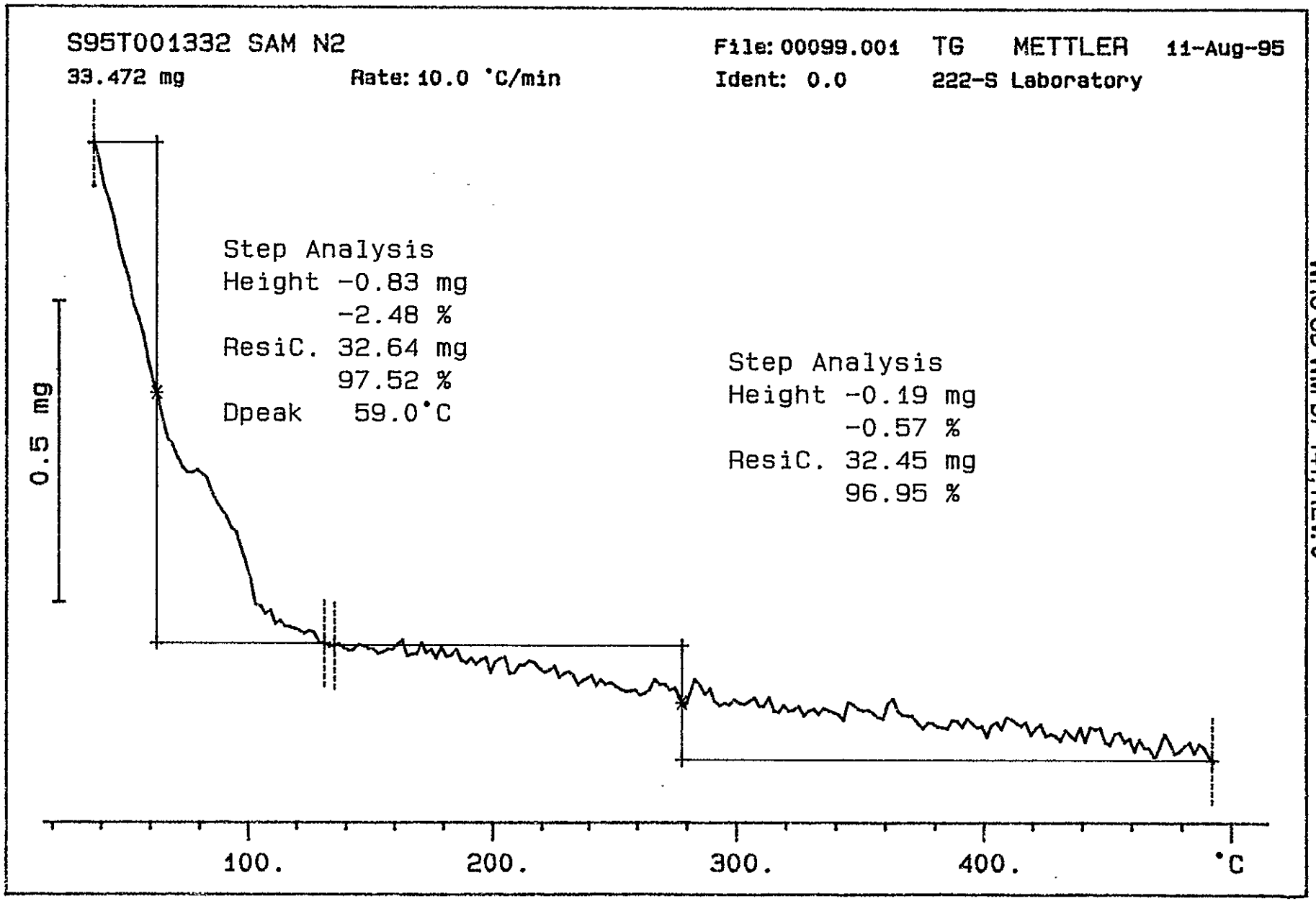
Data Entry Comments:

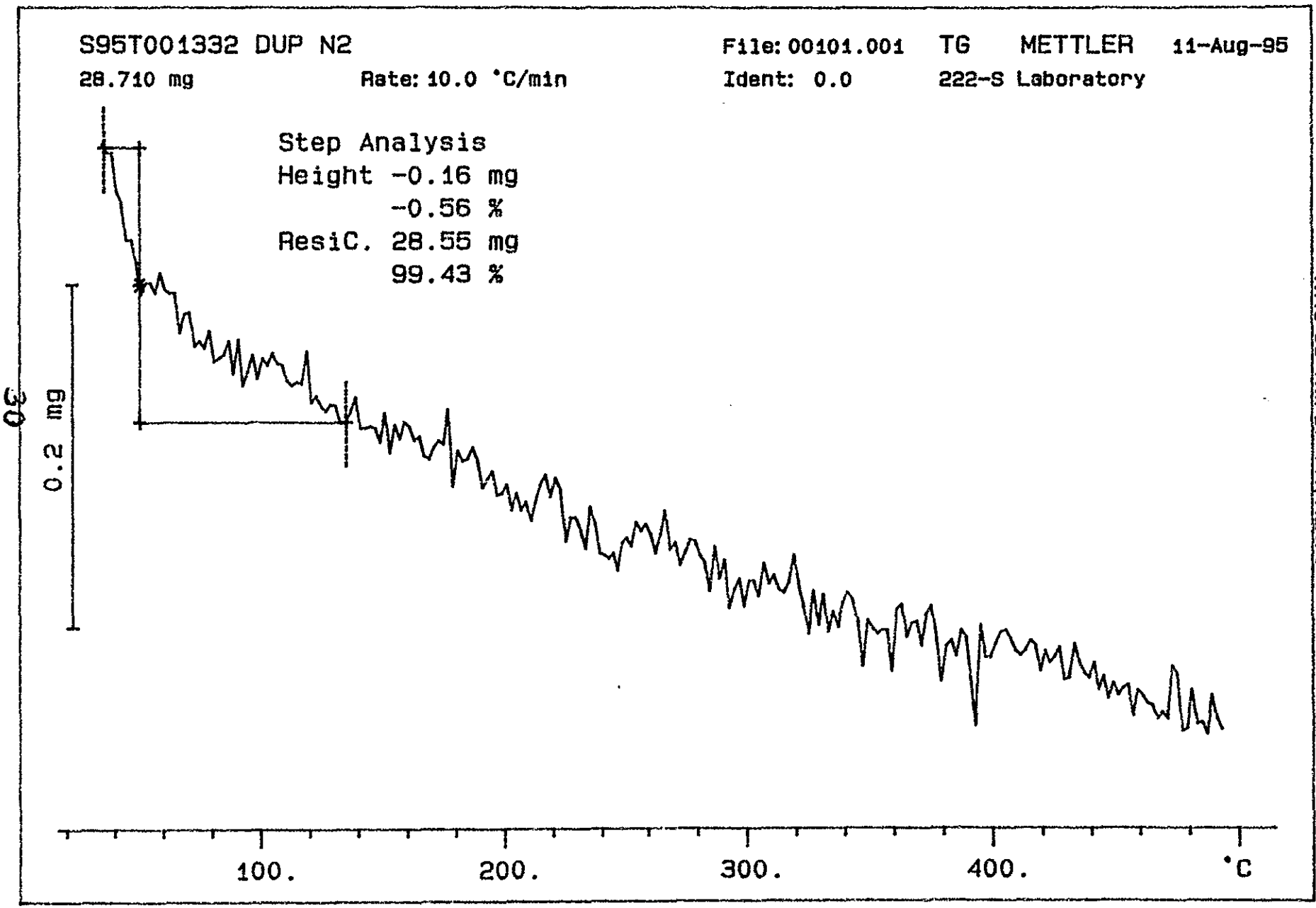
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

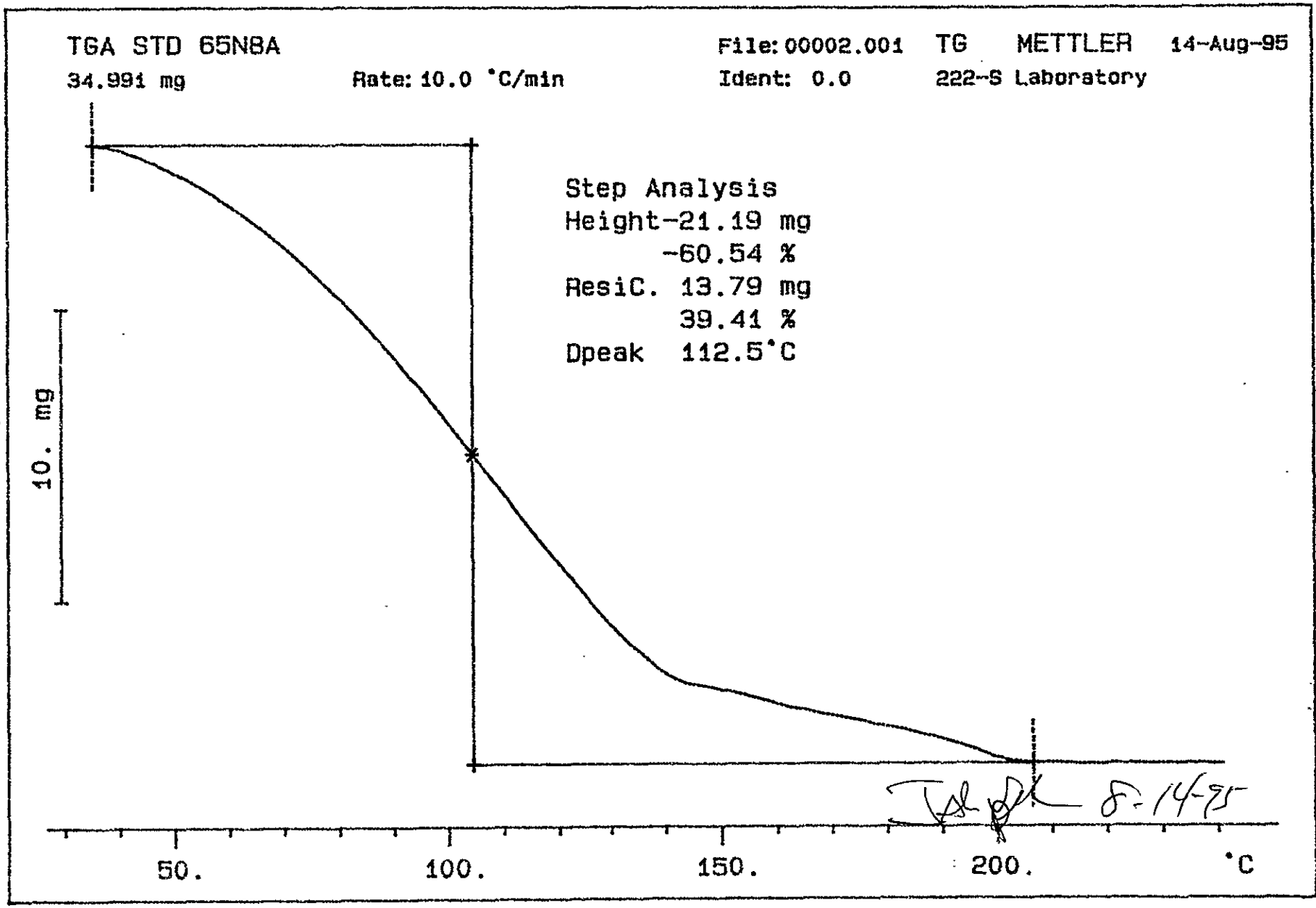
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 28 TO 33.

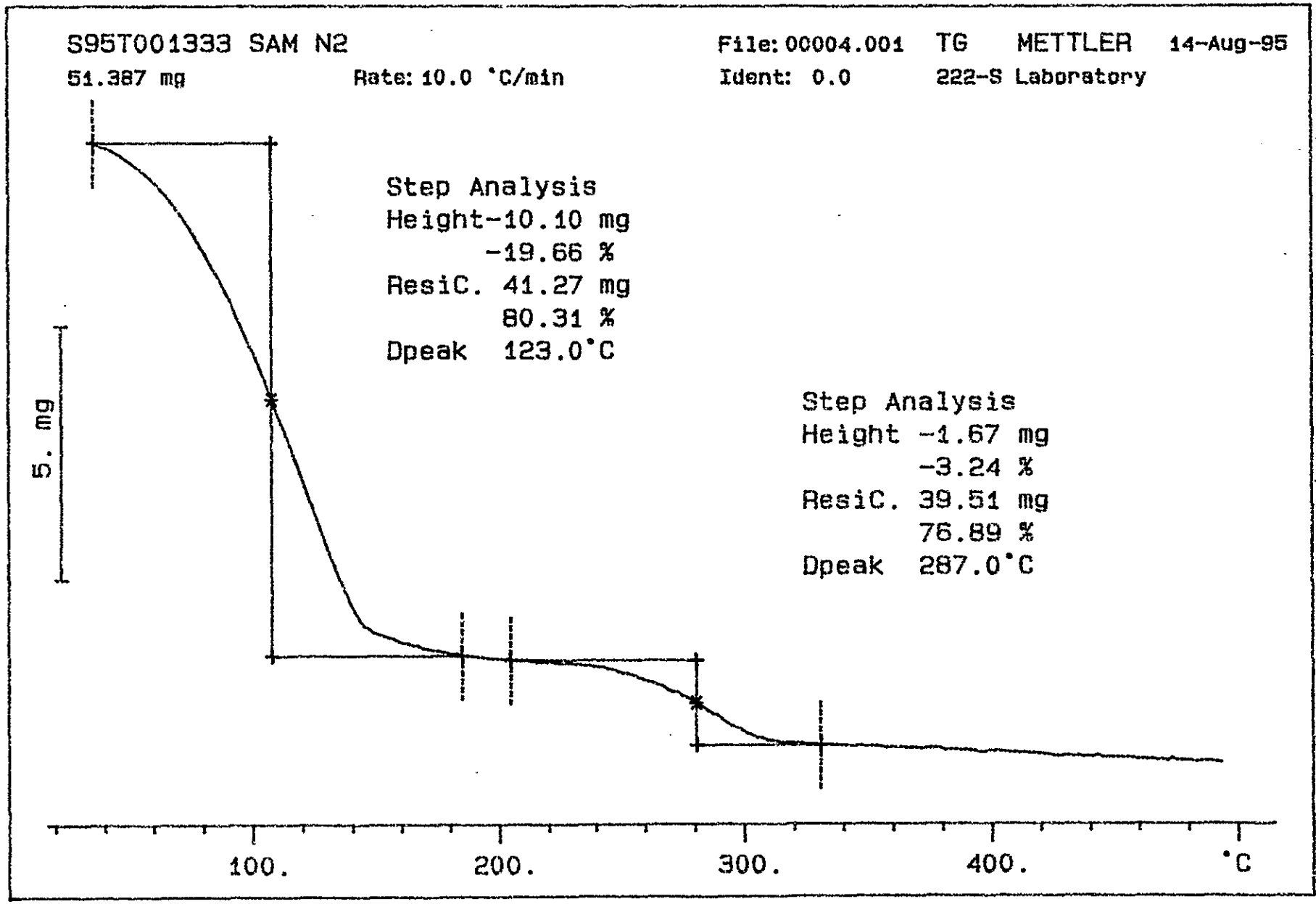


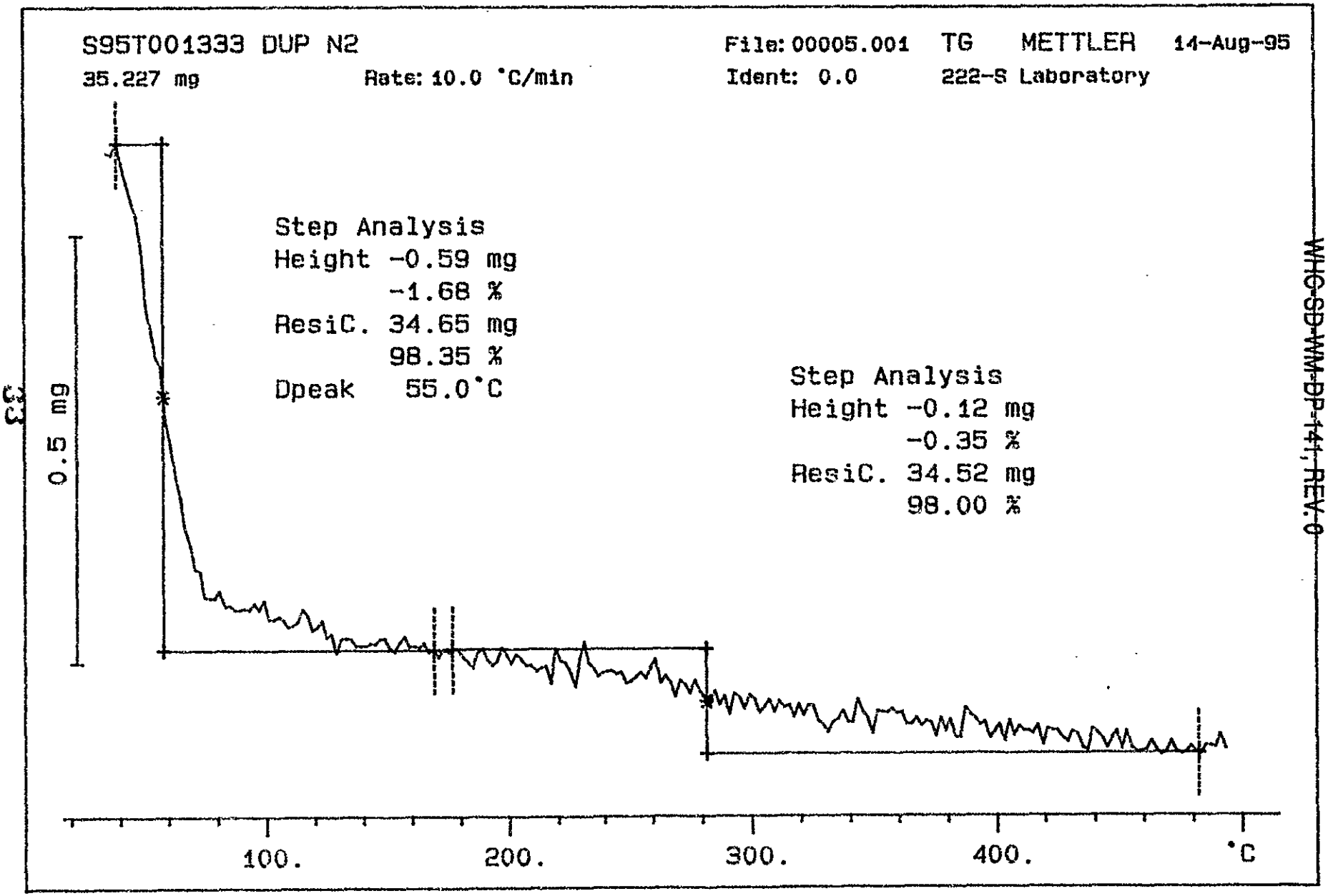
28


S95T001332 SAM N2
33.472 mg
Rate: 10.0 °C/min
File: 00099.001 TG METTLER 11-Aug-95
Ident: 0.0 222-S Laboratory
Step Analysis
Height -0.83 mg
-2.48 %
ResiC. 32.64 mg
97.52 %
Dpeak 59.0°C
Step Analysis
Height -0.19 mg
-0.57 %
ResiC. 32.45 mg
96.95 %
0.5 mg
100.
200.
300.
400.
°C




TGA STD 65N8A
34.991 mg
Rate: 10.0 °C/min
File: 00002.001
Ident: 0.0
TG METTLER
222-S Laboratory
14-Aug-95
Step Analysis
Height -21.19 mg
-60.54 %
ResiC. 13.79 mg
39.41 %
Dpeak 112.5°C
10. mg
50.
100.
150.
200.
°C





LABCORE Data Entry Template for Worklist# 1992

Analyst: ADP **Instrument:** DSC01 3 **Book #** 65N8-A

Method: LA-514-114 Rev/Mod B-0

Worklist Comment: Please run T-108 TGA under N2. bdv

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	STD				TGA-03	SOLID	59.74	57.22	N/A	%
95000097	T-108	2	SAMPLE	S95T001320	1		TGA-03	SOLID	N/A	.54		%
95000097	T-108	3	DUP	S95T001320	1		TGA-03	SOLID	.54	1.12	N/A	%

Final page for worklist # 1992

BD Valenzuela for AD Purinton
Analyst Signature **Date** 8-14-95

Verified by Blandina Valenzuela 8-15-95

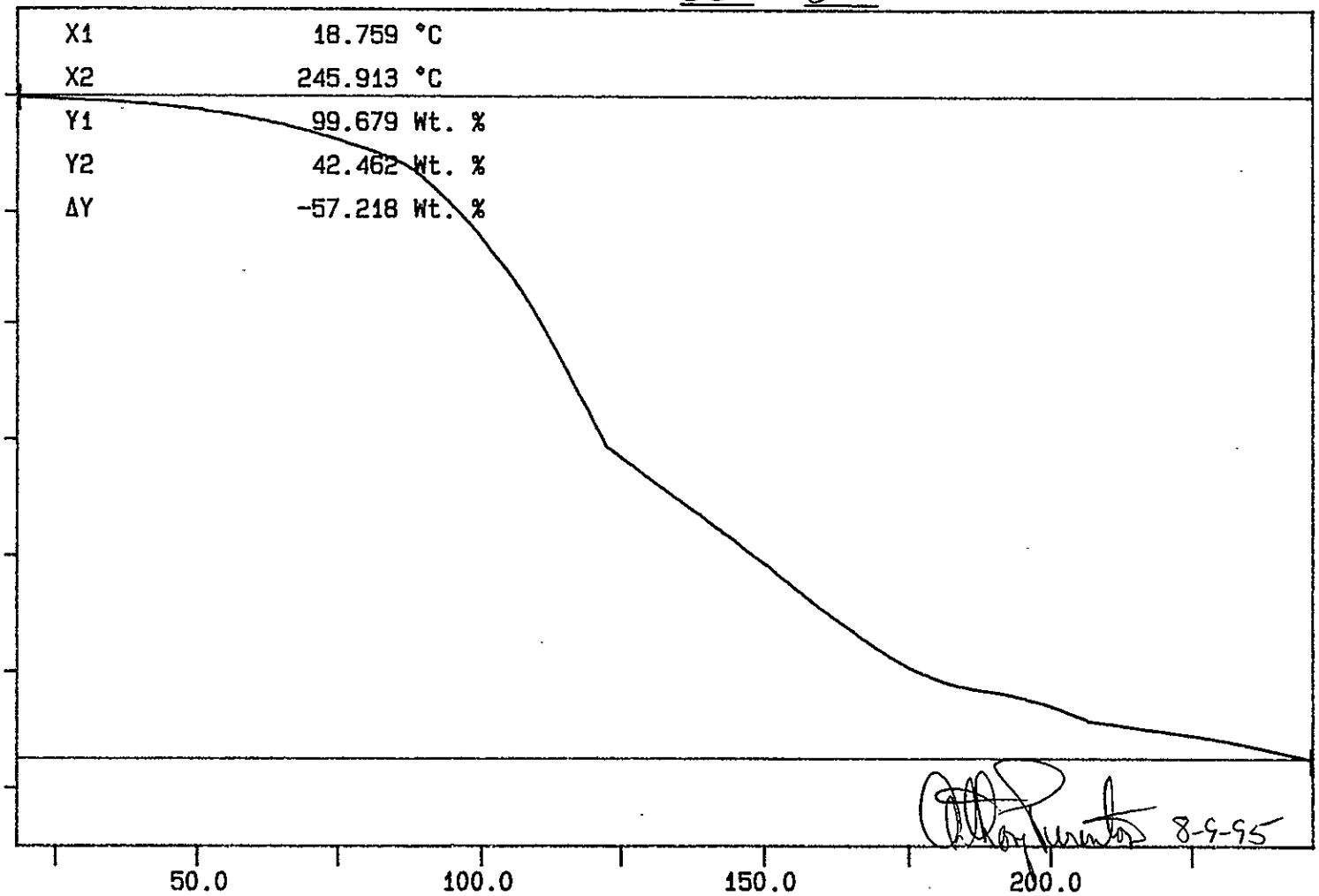
8-15-95
Analyst Signature **Date**

Data Entry Comments: The noise on the thermogram indicates we are getting close to the limits of the instrument.

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Curve 1: TGA
File info: ter080901 Wed Aug 9 11:06:50 1995
Sample Weight: 13.931 mg
65N8-A Terliq

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 35 TO 37.



8-9-95

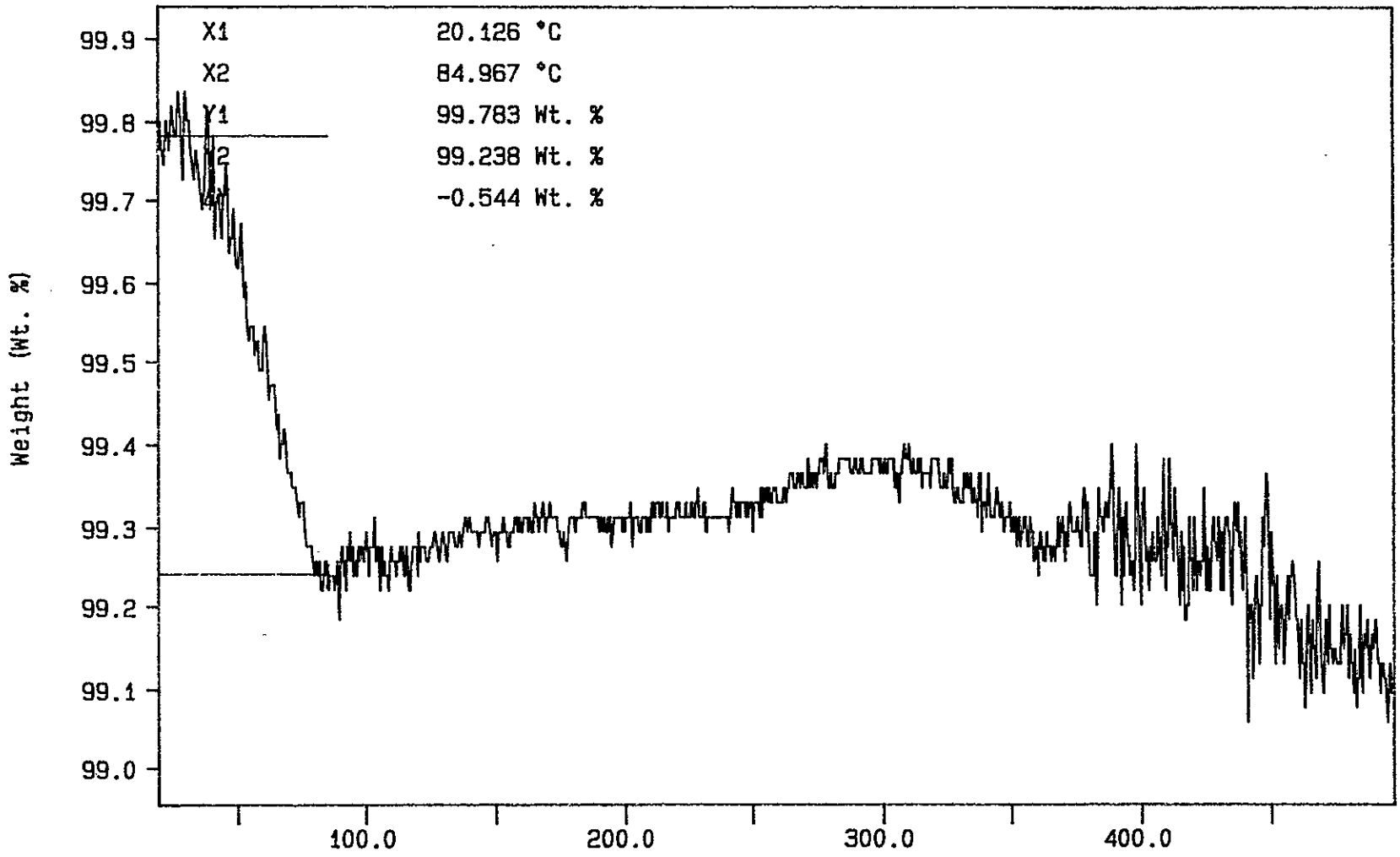
N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 250.0 C

ad purinton
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Aug 9 11:18:01 1995

35

WHC-SD-WM-DP-141, REV. 0

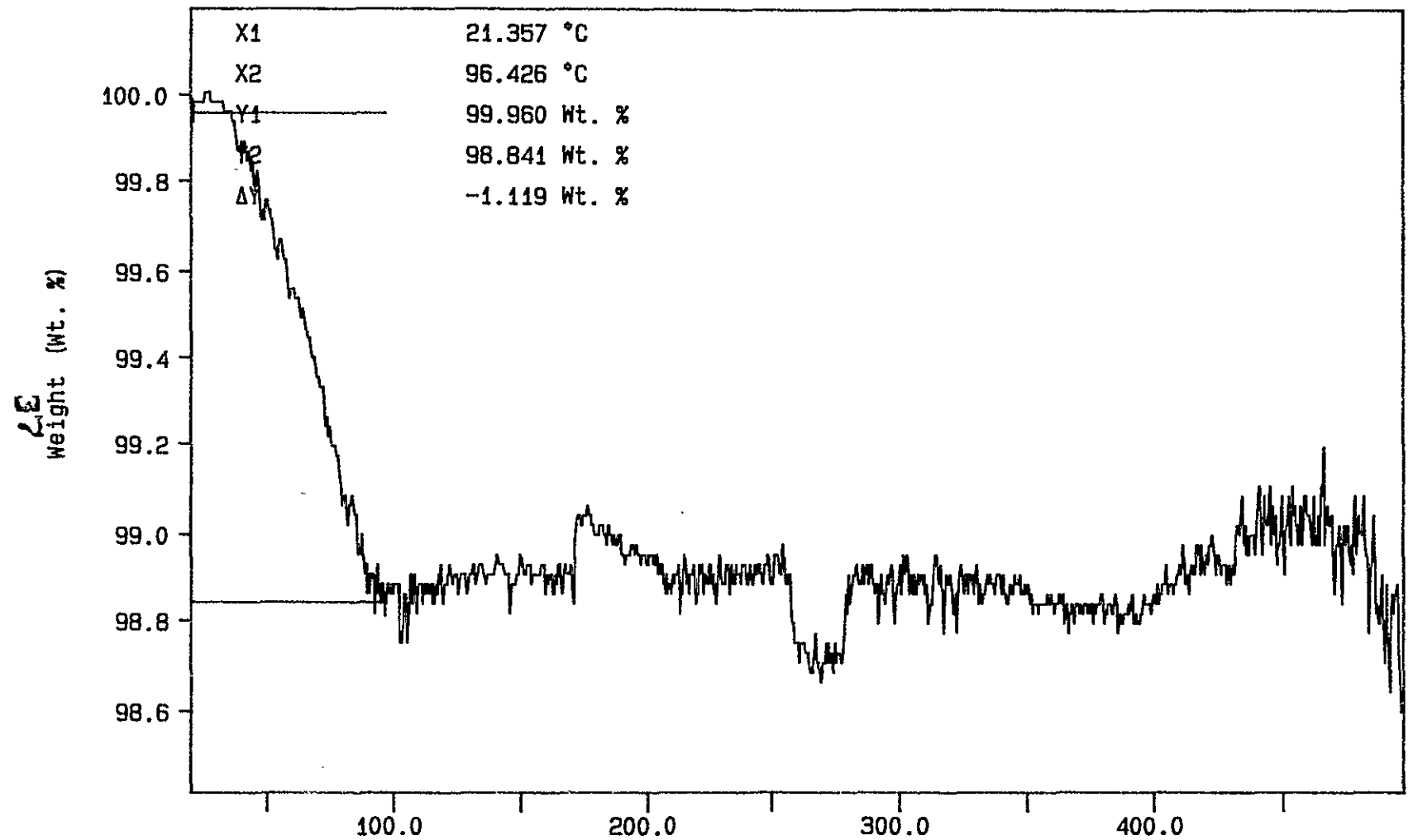
Curve 1: TGA
File info: SAM080901 Wed Aug 9 12:23:32 1995
Sample Weight: 7.790 mg
S95T001320



N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 600.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Aug 9 13:20:21 1995

Curve 1: TGA
File info: SAM080902 Wed Aug 9 14:19:51 1995
Sample Weight: 6.318 mg
S95T001320 DUP



WHC-SD-WM-DP-141, REV. 0

N2
TEMP1: 35.0 C TIME1: 0.0 min RATE1: 10.0 C/min
TEMP2: 500.0 C

AD PURINTON
PERKIN-ELMER
7 Series Thermal Analysis System
Wed Aug 9 14:23:10 1995

LABCORE Data Entry Template for Worklist# 1996

Analyst: RJMcCown **Instrument:** TGA01 **Book #** 65N84

Method: LA-560-112 Rev/Mod A-2

Worklist Comment: Please run T-108 TGA under N2. bdv

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 STD				TGA-01	SOLID	59.74	60.58	N/A	%
95000097	T-108	2 SAMPLE	S95T001332	1		TGA-01	SOLID	N/A	.83		%
95000097	T-108	3 DUP	S95T001332	1		TGA-01	SOLID	.83	2.43	N/A	%
95000099	T-108	4 SAMPLE	S95T001333	1		TGA-01	SOLID	N/A	39.36		%
95000099	T-108	5 DUP	S95T001333	1		TGA-01	SOLID	39.36	24.44	N/A	%

Final page for worklist # 1996

RJMcCown 8/15/95
Analyst Signature **Date**

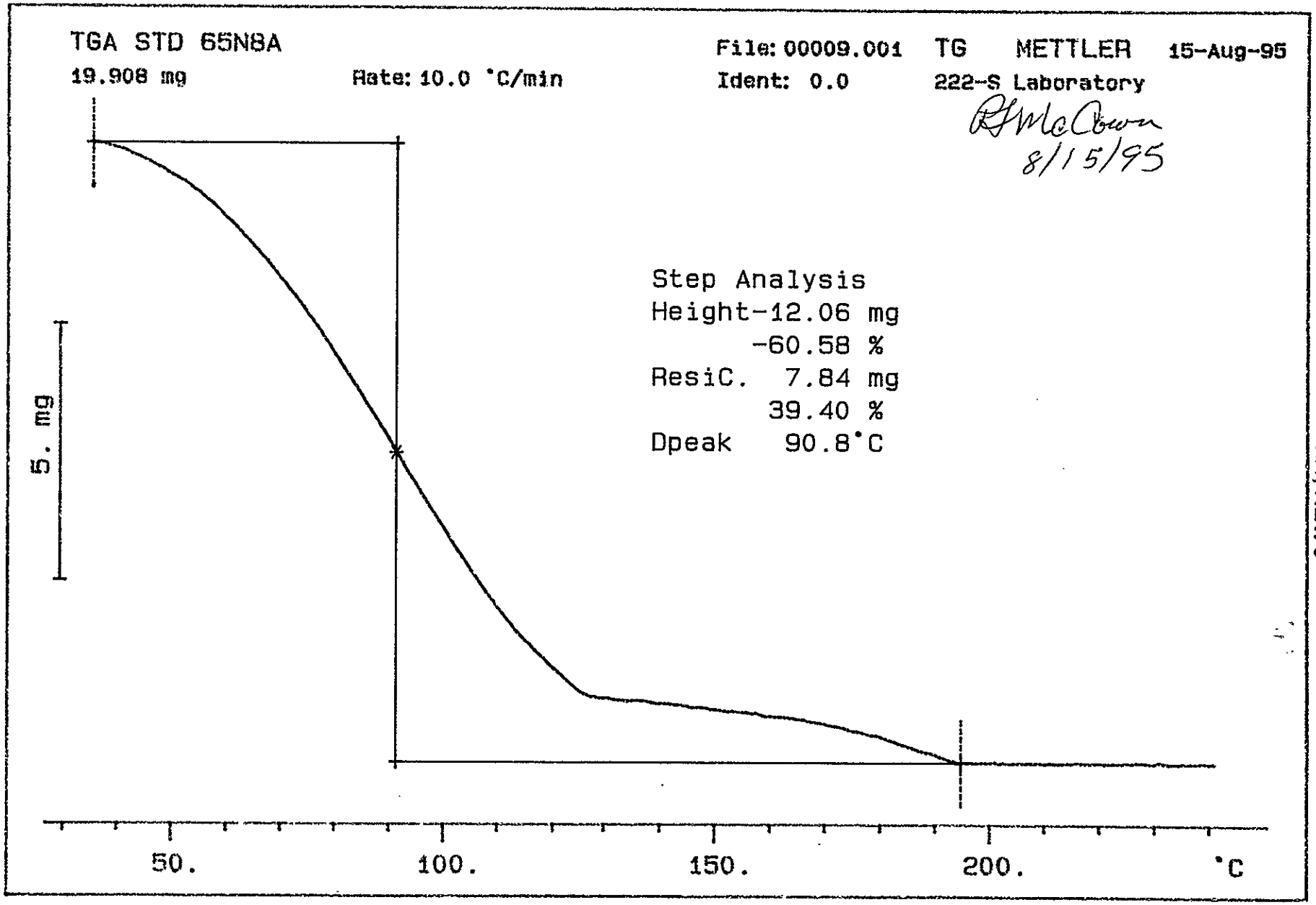
LS Jones 8-15-95
Analyst Signature **Date**

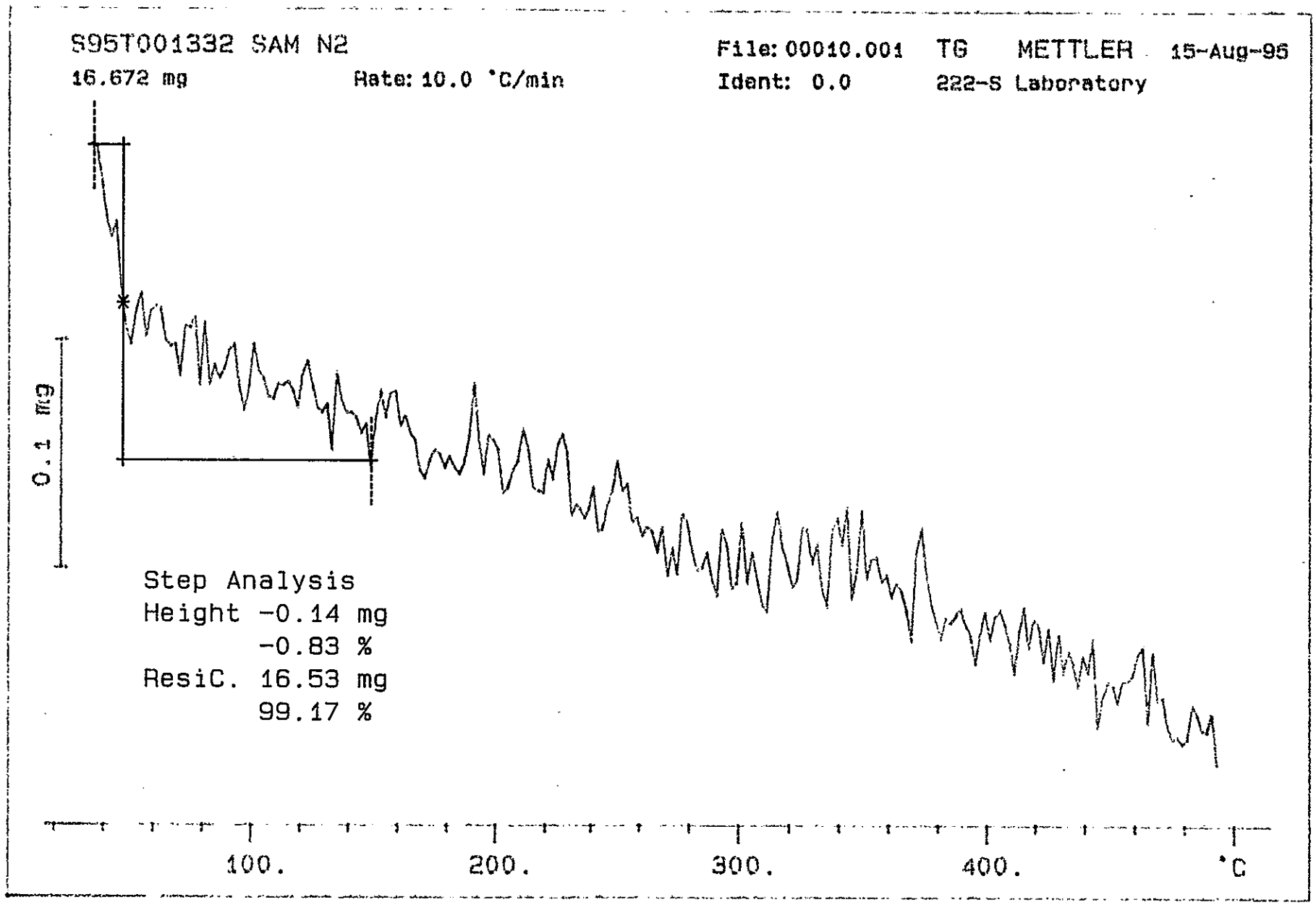
Verified by Blandina Valenzuela 8-15-95

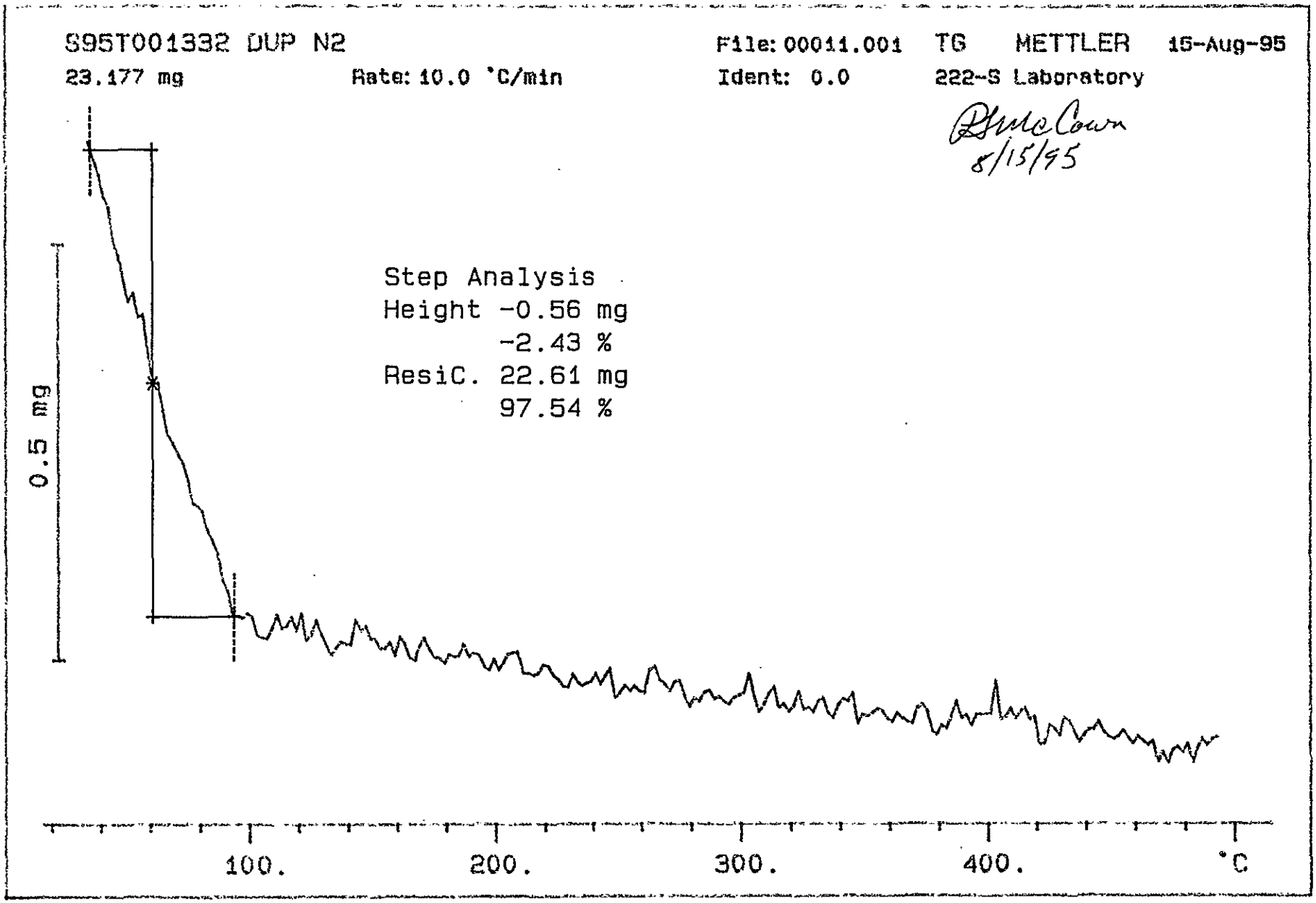
Data Entry Comments: The noise on the TGA thermogram indicates we are getting close to the limits of the ~~mac~~ PDV 8-15-95 instrument.

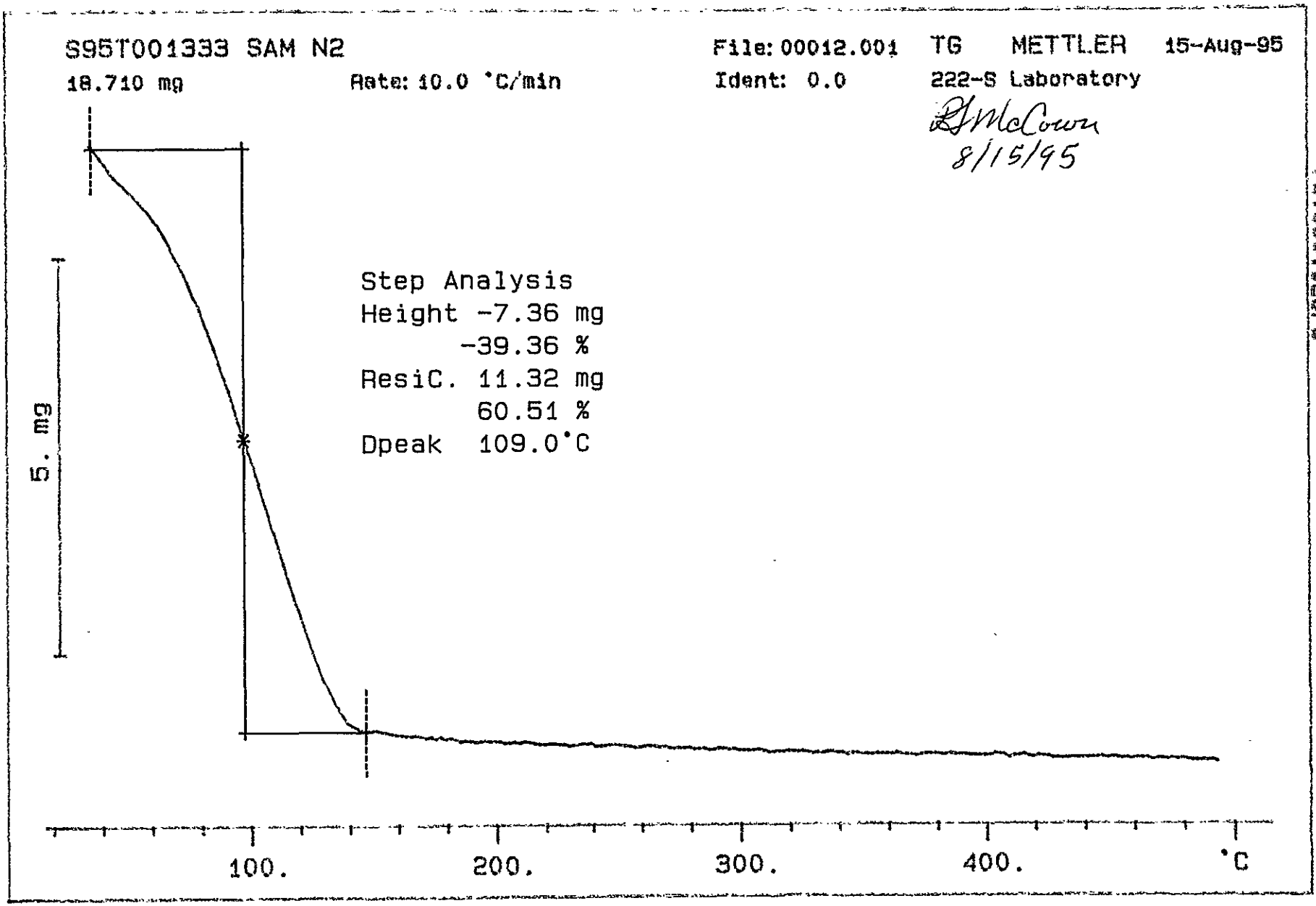
Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

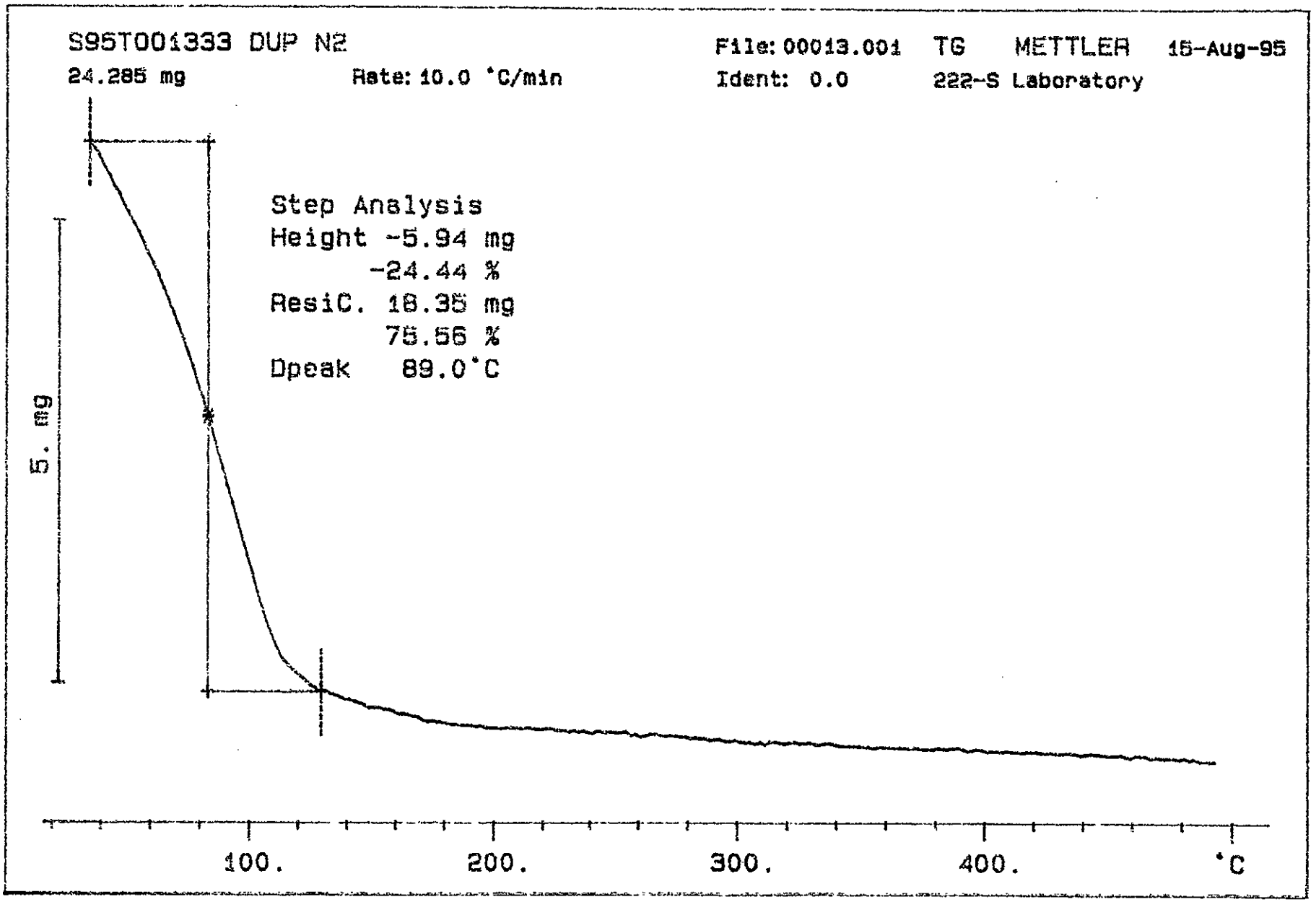
SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 39 TO 43.






S95T001332 DUP N2
23.177 mg
Rate: 10.0 °C/min
File: 00011.001 TG METTLER 15-Aug-95
Ident: 0.0 222-S Laboratory
Step Analysis
Height -0.56 mg
-2.43 %
ResiC. 22.61 mg
97.54 %
6w 5.0 mg
100.
200.
300.
400.
°C




S95T001333 DUP N2
24.285 mg
Rate: 10.0 °C/min
File: 00013.001 TG METTLER 15-Aug-95
Ident: 0.0 222-S Laboratory
Step Analysis
Height -5.94 mg
-24.44 %
ResiC. 18.35 mg
75.56 %
Dpeak 89.0°C
5. mg
100.
200.
300.
400.
°C

9513381.2577

DISTRIBUTION SHEET

To Distribution	From Characterization Plans, Coordination and Reports	Page 1 of 2 Date: 08/21/95
Project Title/Work Order WHC-SD-WM-DP-141, Rev. 0, "45-Day Safety Screen Results for Tank 241-T-108, Auger Samples 95-AUG-035 and 95-AUG-037"		EDT NO.: EDT-613112 ECN NO.: N/A

Name	MSIN	Text With all Attach	EDT/ECN ONLY
Pacific Northwest Laboratory			
J. R. Gormsen	K7-28		X
S. J. Harris	K7-22	X	
K. L. Silvers	P7-27		X
U.S. Department of Energy, RL			
C. A. Babel	S7-54	X	
Westinghouse Hanford Company			
J. N. Appel	G3-21		X
H. Babad	S7-30	X	
J. H. Baldwin	T6-07	X	
R. J. Cash	S7-15	X	
G. D. Forehand	S7-31		X
C. E. Golberg	H5-49		X
V. W. Hall	H4-21		X
D. C. Hetzer	S6-31		X
L. Jensen	T6-07	X	
G. D. Johnson	S7-15	X	
N. W. Kirch	R2-11	X	
J. G. Kristofzski	T6-06	X	
M. J. Kupfer	H5-49	X	
E. J. Lipke	S7-14		X
N. G. McDuffie	S7-15	X	
J. E. Meacham	S7-15	X	
P. M. Morant	H4-25	X	
B. C. Simpson	R2-12		X
D. A. Turner	S7-15	X	
J. A. Voogd	R4-01		X
Central Files	A3-88	&I	
EDMC	H6-08	X	
LTIC	T6-03		X
TCRC	R2-12	X	
TFIC (Tank Farm Information Center)	R1-20		X

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9513381.2578

DISTRIBUTION SHEET

To Distribution	From Characterization Plans, Coordination and Reports	Page 2 of 2 Date: 08/21/95
Project Title/Work Order WHC-SD-WM-DP-141, Rev. 0, "45-Day Safety Screen Results for Tank 241-T-108, Auger Samples 95-AUG-035 and 95-AUG-037"		EDT NO.: EDT-613112 ECN NO.: N/A

Name	MSIN	Text With all Attach	EDT/ECN ONLY	
Washington State Department of Ecology Single-Shell Tank Unit Manager A. B. Stone	B5-18	X		
Environmental Protection Agency Single-Shell Tank Unit Manager D. R. Einan	B5-01	X		
U. S. Department of Energy Jim Poppiti 12800 Middlebrook Rd. Trevion II, EM-36 Germantown, MD 20874			X	
Los Alamos Technical Associates A. T. DiCenso 750 Swift Boulevard Suite # 4 Richland, WA 99352		X		

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